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THE EFFECT OF PRODUCTS, PRICE AND SERVICE QUALITY ON CUSTOMER SATISFACTION IN "RICE FOR THE POORS" PROGRAM

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ABSTRACT
This study aimed to determine and analyze the partial influence of product variables, price, and service quality on consumer satisfaction in Indonesian government's "Rice for the Poors" ("*Beras Miskin*", abbreviated as "Raskin") program, as well as the influence of product variable, price, and service quality simultaneously to customer satisfaction in the program. The sampling method used is proportionate stratified random sampling. The research is conducted in West Bandung regency, Jawa Barat (West Java) Province with a population of 86.908 RTS-PM, and data collection was conducted in October 2015. The method of analysis used in this research is the analysis of correlation and linear regression. The results of the study conclude that the variable of product, price, and quality of service simultaneously or partially possess positive and significant effect on consumer satisfaction in Raskin program. The service quality is one of the strong variables that influence the consumer satisfaction, followed by price and product variables.

KEY WORDS
Service quality, consumer, satisfaction, raskin program.

One of the national government programs on direct social assistance program aimed at the community is providing subsidized rice for poor families (called as *Beras Miskin*, abbreviated as "Raskin"). The program is implemented under the coordination of the Coordinating Ministry for Human Empowerment and Culture (*Kemenkopmk*), Ministry of Social Affairs (*Kemensos*), National Team for Acceleration of Poverty Reduction (TNP2K), Ministry of Home Affairs (Kemendagri) and BULOG. The subsidized rice program for the poor family is aimed at reducing the burden of poor household expenditure (RTM) as part of fulfilling basic food needs in the form of rice. Thus, the program is also intended to improve poor family access in the fulfillment of basic food needs as one of the basic rights of the community. This is one of the central and regional government programs that are important in improving national food security. Based on General Guidelines (Pedum) on Raskin stated that rice distributed is medium grade and is in good condition, pest free, and 15 kg per RTS-PM every month quantum. Its' Raskin Price Redeem (HTR) set at IDR 1,600.00 per kilogram. The Raskin program has been running for at least 15 years and every year the Government sets the Household Beneficiary Beneficiary Targets (RTS - PM) which in recent years refers to the 2011 Social Protection Data Collection (PPLS) and is a market or consumer market for BULOG.

BULOG is a public company under the Ministry of State-Owned EnteIDRrises (BUMN) based on Government Regulation No.7 of 2003 dated January 10, 2005, with the intent of carrying out quality logistics business that is qualified and adequate for the fulfillment of the livelihood of the public. In certain cases, BULOG carries out certain tasks that are given regarding basic food prices security, managing Government Food Reserves and distribution of basic food to certain segments of society, especially staple foods in the form of rice and other basic food stipulated by the Government in food security framework. BULOG performs a government assignment by conducting a series of activities in the form of rice physical procurement, physical storage and maintenance, physical distribution, and managing Raskin physical distribution, in other words, BULOG has implemented Raskin program in accordance with general guidelines, technical guidance and applicable implementing guidance. Nevertheless, in reality from monitoring results in online and print media, short

message service (SMS) from Raskin complaints, and other sources in the last 5 years there was complaints from RTS-PM in some villages, sub-districts, and districts throughout Indonesia which complaint mainly regarding rice quality and quantum.

Based on the preliminary analysis of Raskin Complaint, it can be seen that the number of RTS-PM complaints in 2010 - 2014 has increased at municipality/regency level. It indicates that the complaint needs to receive attention from BULOG. Said rice condition is generally referred to as unfavorable rice conditions such as unfit for consumption, musty, yellow, or brownish, powdery, and having less than 15 kg per sack in quantity.

Furthermore, based on a preliminary analysis of the Number of Grievances at the Provincial Level in the last 5 years (2010 - 2014), it was noted that the areas with the highest complaints over the last 2 years were in Java and from 5 provinces in Java. East Java province received the highest number of Complaints coming from 8 and 9 villages/districts/ Regency. West Java had complaints coming from 9 and 7 villages/districts / Regency as exhibited in table 2. The complaints have been clarified by the management.

Similar to the implementation of other government policies and programs in general, the distribution of rice to the community has experienced a number of problems and challenges in the process. Common problems encountered in relation to the distribution of rice include the delivery of Raskin not according to the scheduled distribution schedule. This occurred for various reasons. Based on the type of complaints and general problems mentioned above, it can be grouped into product factors (rice conditions such as unfit for consumption, musty odor, pale, yellow or brown, powdery / floury, and rice quantum less than 15 Kg per sack), price factor (the price set does not match the price in the field), and service factor (distribution at night without prior confirmation).

A number of complaints indicate consumer dissatisfaction (RTS-PM) on the implementation of Raskin Program. Therefore it is vital BULOG to understand consumer behavior, in order to implement development strategy on the product, price, and service quality in Raskin program. Faced with the situation, BULOG as State-Owned EnteIDRrise (BUMN) was given instruction to perform as operator and supplier of subsidized rice. They must give special attention and appropriate strategy to the problem occurred. If it is allowed to continue and receive less attention, it is possible that Raskin Program is not implemented in accordance with existing guidelines. In order Raskin Program to succeed, BULOG ought to choose an appropriate strategy to increase the realization of rice distribution annually. On the basis of identification of the above problems, this research attempts to answer the following problems:

- Does the product affect customer satisfaction?
- Does the price affect customer satisfaction?
- Does the quality of service affect customer satisfaction?
- Do the product, price, and quality of service together affect customer satisfaction?

LITERATURE REVIEW

Product. Product is the most fundamental variable of marketing. A wide range of products are marketed make consumers compare the price and quality of a product with another. Therefore, it is necessary to employ a strategy that includes product characteristics and form, brand and service policy. Tjiptono (2008) states that product is everything that a manufacturer can offer to be noticed, requested, sought, bought, used, or consumed by the market to fulfill relevant markets needs or wants. Based on its level, according to Kotler (2005) product can be divided into five levels described as follows:

- *The core product*, which offers the main benefits and uses that consumer's need.
- *Generic products*, reflecting the basic function of a product.
- *Expected product*, is a set of attributes and conditions that are expected when consumers buy a product.
- *Additional products*, providing additional services and benefits that differentiate the company's offerings

- *The potential product*, every addition, and transformation to the product that may be done in the future.

Based on eight dimensions of product quality according to Stevenson (2005: 386), product variables dimensions relevant to this research are as follows:

- *Compatibility to specification (conformance to specification)*. Conformance is the conformity of product performance with the stated standard of a product. This could be considered a "promise" that the product must meet. Products possessing this dimension's quality mean it is according to the standard.
- *The beauty (aesthetics)*. The beauty of product display that can attract consumers. This is often done in the form of product design or packaging. Some brands update their "face/display" to be more beautiful in the eyes of consumers.

Price. According to Stanton (2005: 22), price is a sum of money (possibly with the addition of goods) required to obtain some combination of an accompanying product and service. There are several factors that affect pricing, which is described as follows:

- *Internal factors,* consisting of company's marketing objectives, organizational considerations, marketing objectives, marketing strategy mix, and cost.
- *External factors*, consisting of market situation and demand, competition, intermediary expectations, and environmental factors such as socioeconomic conditions, government policies and regulations, culture, and politics.

There are basically four types of pricing objectives, one of which is: price stabilization, conducted by fixing prices to maintain a stable relationship between the price of an enteIDRrise and the price of the industry leader. The puIDRose of pricing services should be translated into a service pricing program by considering factors such as cost and other consideration factors, such as the political and legal environment, the international environment, and the price element in other marketing programs.

Based on several theories and explanations above, price indicator (Stanton, 2005: 308), consists of the following.

- *Price Compliance with product and service quality:*

Price is often used as a quality indicator for consumers. For example, expensive goods or services tend to be assumed for possessing good quality. The price level of one service to another of the same kind sometimes differs, which is based on the factors causing it. The price consumers expect for a service is equivalent to results of the services offered.

- *Compatibility:*

Price level is affordable for people's purchasing power. Compatibility is related to how the consumer will pay for the services to be purchased. Usually in cash and credit, depending on the organization's policy.

Based on the results of the above theoretical study, obtained dimensions of price variables in accordance with this study are the suitability of the price with product value and affordable price appropriateness compared to society's purchasing power level.

Service Quality. The quality of service is the level of excellence expected and control over the level of excellence to meet consumer desires, Tjiptono (2007). Parasuraman et al. (2008: 64), also states that attributes that can be used to evaluate service quality can be seen from five basic dimensions, which are described as follows:

- *Physical/Tangible (Tangibles)*, i.e the ability of a company to show its existence to external parties. Appearances and capabilities of reliable corporate physical facilities and infrastructure to the surrounding environment are clear evidence of the services provided by the service provider. This includes physical facilities (e.g buildings, warehouses, etc.), equipment and equipment used (technology), and the appearance of employees.
- *Reliability*, namely the ability of the company to provide services in accordance with the promised accurately and reliably. Performance must be in accordance with consumer expectations which means punctuality, equal service for all consumers without error, sympathetic attitude, and with high accuracy.

- *Responsiveness*, which is a policy to help and provide services quickly (responsive) and appropriate to consumers, with clear information delivery. Letting consumers wait caused negative perceptions in service quality.
- *Guarantees and certainty (Assurance)*, namely knowledge, politeness, and the ability of company employees to nurture consumer confidence to the company. This includes several components including communication, credibility, security, competence, and courtesy.
- *Empathy*, which provides a sincere and personal attention given to consumers by trying to understand consumer desires. Where a company is expected to have understanding and knowledge about consumers, understand the specific needs of consumers, and have a convenient operating time for consumers.

According to Tse and Wilton (in Tjiptono, 2005), consumer satisfaction or dissatisfaction is the consumer's response to perceived mismatch evaluation between previous expectations and actual product performance after its use. According to Hawkins and Lonney quoted in Tjiptono (2004: 101) the attributes of satisfaction shaping consist of: Expectations conformity, Revisit Interest and Recommendation Willingness. Expectations conformity is the level of conformity between product performance expected and perceived by consumers, including: obtained products are in accordance or exceeded expectation; employee services are in accordance or exceeded expectation; and supporting facilities are in accordance or exceed expectation.

Fardiani (2013) set the indicator as described below to measure customer satisfaction:

- No complaints from customers of the service or products to Dyriana Bakery & Café Pandanaran, Semarang City.
- Convenience felt by the customer at the time of purchase at Dyriana Bakery & Café Pandanaran, Semarang City.
- Fulfillment of wishes and expectations of customers when making a purchase at Dyriana Bakery & Café Pandanaran, Semarang City.
- Loyal customers and provide good references of the product to others.

Based on the description above, mind frame and hypothesis is exhibited as in Figure 1.

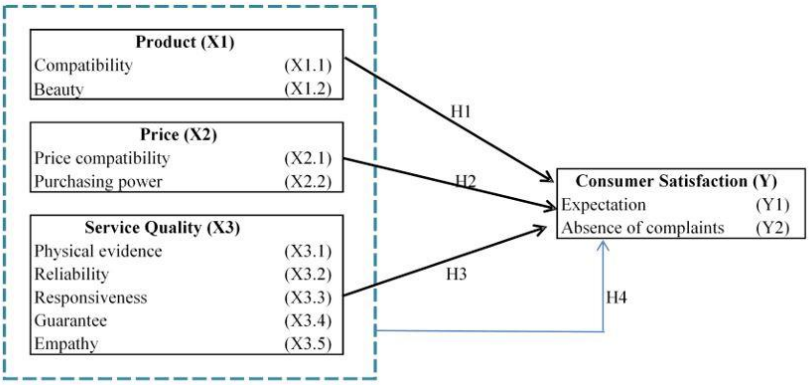

Figure 1 – Mind Frame

The dependent variable is variable that affects or becomes the result due to their independent variables. In this case, the dependent variable is Customer Satisfaction (Y). The independent variables (Product (X1), Price (X2) and Service Quality (X3)) are the variables that influence or become the cause of the change or emerging dependent variable. Thus, the hypothesis in this study is described as follows:

H_1: Product Variable affects Consumer Satisfaction

H_2: Price Variable affects Consumer Satisfaction

H_3: Variable Service Quality affects Consumer Satisfaction

H_4: Variables of product quality, price, and quality of service affect the Consumer Satisfaction in Raskin Program.

METHODS OF RESEARCH

The population in this study was Household Target Beneficiary Targets (RTS-PM) in 2015. RTS-PM was Raskin target consumer of 2015 which amounted to 86,908 RTS in West Bandung Regency, Jawa Barat (West Java) Province, Indonesia. Sampling was carried out with consideration of the limitations that do not allow the entire population to be studied. To determine some samples required, formula utilized was in accordance to Rao Purba in Martanti (2006), which is described as follows:

$$N = Z / 4\ (Moe)^2 \qquad (1)$$

Note:

N = total sample

Z = The normal distribution level is at a significant level 5% = 1,96

Moe = *Margin of error* maximal errors that can be corrected, set at 10% or 0,10.

By using Moe at 10%, it was determined that minimum total sample could be taken are 96 respondents. To complete and refine this research, the researchers took a sample of 200 people. Data collection technique utilized in this research is Questionnaire and Proportionate Stratified Random Sampling.

RESULTS OF STUDY

The results of data processing indicate that the background of the majority of respondents are as follows: aged over 51 years (34.9%), has no permanent job, or originated from housewives background (45%), income between IDR 401,000 - IDR 750,000/month (32%), and recipients of long-term subsidized rice between 5 - 10 years (35%). The summary of respondents' response to the statement of all research variables are as follows:

- Regarding indicators on the conformity of specifications and product appearance, the majority of respondents are not satisfied with product quality, while they are generally satisfied with product quantum.
- Regarding price conformity indicator with product value, in general, respondents are satisfied without affected by product condition or prices. This is possible because the value and benefits of rice as a staple food has not been replaced by other food products.
- Regarding 5 indicators of service quality variables (physical form, reliability, assurance, responsiveness, empathy), the majority of respondents feel satisfied.
- Regarding conformity to expectations indicators, the majority of respondents are not satisfied with product condition, because it is not in line with expectations. In contrast, respondents are generally satisfied with product price and service quality because it is in line with their expectations. While the indicator receives no complaints from consumers, the majority of respondents are not satisfied product condition, therefore there are more consumers who complain about product condition. The majority of respondents are satisfied with product price and service quality, therefore few consumers complain about them.

The results of validity test on the questionnaire of product variables, price, service quality, and customer satisfaction indicate that all items of statement/instrument are valid. The calculation results from all r value > r table equal to 0.138. On the other hand, reliability test analysis result using Cronbach's Alpha model illustrates that the statement on the questionnaire related to product variables, price, service quality, and overall customer satisfaction are reliable with the α count value 0.873> α table of 0.060.

Table 1 – Multiple Linear Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-2.008	1.691		-1.188	.236		
	Product	.181	.036	.258	5.028	.000	.865	1.156
	Price	.208	.034	.325	6.107	.000	.802	1.246
	Service Quality	.259	.036	.400	7.137	.000	.722	1.385

Dependent Variable: Consumer Satisfaction

From the result of regression analysis, the regression equation obtained is as follows:

$$Y = -2{,}008 + 0.181\ X1 + 0.208\ X2 + 0.259\ X3$$

The regression model can be interpreted as follows:

The constant (α) is the negative value of – 2.008 when the product (X1), price (X2), and service quality (X3) value is 1. This indicates that the consumer is not satisfied with the product, price and service quality. Therefore it is necessary to immediately make improvements to these three variables.

ß1 = 0.181 if product variable (X1) is increased with the assumption of price variable (X2) and service quality (X3) is considered fixed, hence consumer satisfaction will also increase equal to 0.181.

ß2 = 0.208 if the price variable is increased with the assumption that product variable (X1) and service quality (X3) are considered fixed, any increase in price variable (X2) then consumer satisfaction will increase by 0.208. This indicates the need for improved rice conditions and adjusted to community purchasing power to adjust the opportunity for price increases.

ß3 = 0.259 if service quality variable is increased with product variable assumption (X1) and price (X2) is considered fixed, hence consumer satisfaction will increase equal to 0.259.

Based on the value of regression coefficient (ß) of the three independent variables, it is known that service quality variables have the most dominant influence on consumer satisfaction at 0.259. This indicates that the priority scale of BULOG policy in increasing consumer satisfaction should be more focused on improving service quality, price, and product variables. This is also based on the fact that BULOG is easier to mobilize internal resources in managing service aspect, for example in storage management policy, maintenance, distribution, and human resources. Prices and products are more influenced by external factors such as government intervention in purchasing price policy of government (HPP), season condition and rice harvest schedule in Indonesia.

In order to satisfy the consumer, the minimum value for the service quality variable is 7. If this is included in the equation, the following formula will be obtained:

$$Y = -2.008 + 0.181 + 0.208 + (0.259 \times 7)$$

$$Y = 0.194$$

To determine whether product, price, and service quality variables partially affect consumer satisfaction, in table 1. each variable t value is significant 0.000 <probability 0.05. It means H1 was accepted or product variable, price variable, and services quality variable partially provide a significant effect on customer satisfaction. On the other hand, based on the SPSS calculation, t_{count} compared to t value on t distribution table with α = 5%, t_{table} value of 1.652 was obtained. The result is described as follows:

t_{count} value for product variable is 5.028. Because t_{count} (5.028)> t_{table} (1.652) then H0 is rejected and H1 accepted, it means that product variable partially gives significant influence to consumer satisfaction.

t_{count} value for price variable equal to 6.107. Because t_{count} (6.107)> t_{table} (1.652) then H0 is rejected and H1 accepted, it means that price variable partially gives significant influence to consumer satisfaction.

t_{count} value for service quality variable equal to 7.137. Because t_{count} (7.137)> t_{tabel} (1.652) then H0 is rejected and H1 accepted, it means that service quality variable partially gives significant influence to consumer satisfaction.

F test was conducted to determine whether the independent variable simultaneously affects consumer satisfaction.

Table 2 – F Test Result

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	807.576	3	269.192	81.530	.000[b]
	Residual	647.144	196	3.302		
	Total	1454.720	199			

a. Dependent Variable: Satisfaction
b. Predictors: (Constant), Service, Product, Price

Based on Table 2, it can be concluded that F is significant (0,000)<probability 0.05. SPSS calculation result obtained F_{count} equal to 81.530, because F_{count} value> F_{table} (81.530> 2.65). Consequently, H0 is rejected and H1 is accepted. Thus it is evident that there is a significant influence of product, price and service quality simultaneously to customer satisfaction.

The above test results answered the hypothesis of this study as described in Table 3.

Table 3 – Hypothesis Examination Result

	Hypothesis	Conclusion
H1	Product Variables have a positive effect on customer satisfaction	Hypothesis accepted
H2	Price variables have a positive effect on customer satisfaction	Hypothesis accepted
H3	Service Quality Variables have positive effect on consumer satisfaction	Hypothesis accepted
H4	Product Variables, Price, Quality of Service together have a positive effect on customer satisfaction	Hypothesis accepted

The coefficient of determination is the ability of the independent variable to contribute to the dependent variable in percentage units.

Table 4 – Coefficient of Determination Examination Result

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.745[a]	.555	.548	1.81707

Based on table 4, it could be interpreted that R2 (coefficient of determination) = 0.548 or 54.8%. It means the ability of independent variables (i.e product, price, and quality of service) in explaining customer satisfaction is equal to 54.8% while the rest of 45.2% illustrates the presence of other free variations not observed in this study.

Correlation Analysis of Research Interdependent Dimensions. This analysis was conducted to measure the correlation between free and bounded dimensions using the Pearson Correlation matrix and SPSS program.

Based on the results of dimension correlation analysis between research variables, moderate relationship strength level was obtained which are described as follows:

- Product variable dimension to consumer satisfaction variable dimension:

The dimension of beauty/display (X1.2) on product variables has a close relationship with the conformity on expectation dimension (Y1) on consumer satisfaction variable with a correlation coefficient of 0.467 medium strength level. Pest free, odorless, and non-

imperative look, easy to assess the subsidized rice, compared and tailored to the expectations of the consumers themselves. This exhibits a dominant relationship between rice display dimension and consumer suitability dimension.

- Dimension on price variable to dimension on customer satisfaction variable:

Product value dimension (X2.1) on price variable has a close relation with no complaints dimension (Y1.2) on consumer satisfaction variable with a correlation coefficient of 0.403 moderate strength level. Price compliance with products value obtained by consumers is very largely perceived by them as well. This exhibits rice value can not be replaced by other products. The prevailing HTR is cheaper compared to the price of similar rice in the public market, therefore consumers have no complaints against the subsidized rice price at IDR 1,600,00/kg.

Table 5 – Interval Dimension Correlation Matrix

Variable	Variable	Y (Consumer Satisfaction)	
	Dimension	Comformity to Expectation	No Complaints
X1 Product	Comformity to specification	0,307	0,185
	Display	0,467	0,392
X2 Price	Product Value	0,255	0,408
	Society Purchase Power	0,310	0,499
X3 Service Quality	Tangibles	0,480	0,535
	Reliability	0,474	0,206
	Responsive	0,434	0,120
	Guarantee	0,482	0,404
	Empathy	0,445	0,195

Source: Processed Primary Data, 2015.

The dimension of people's purchasing power (X2.2) on the price variable has a close relationship with no complaints dimension (Y1.2) on customer satisfaction variable with a correlation coefficient of 0.499 medium strength level. Consumers who generally earn below UMR rates, are mostly elderly and have no permanent job. Therefore possessing low purchasing power of RTS-PM. RTS-PM has no choice but to consume subsidized rice. Thus no complaints from consumers against product price at IDR 1,600,00/kg.

Both products value and purchasing power dimensions possess dominant relationship no complaint dimension.

- Dimension on service quality variable to customer satisfaction variable dimension:

Tangibles dimension (X3.1) on service quality variables has a close relationship with the conformity of expectation (Y1.1) and no complaints dimensions (Y1.2) on customer satisfaction variables with a correlation coefficient of 0.480 and 0.535 moderate strength levels. Service quality in the form of the availability of weighing equipment, service schedule, unpaid rice stock at the Distribution Point, and adequate rice stock to supply Raskin program affected the consumers. They tend not to complain about the lack of basic staple food supply for the family, information on delivery schedule, and rice storage at the Point of Contribution. Those factors live up to consumer expectation.

The dimension of reliability (X3.2) on service quality variables have a close relationship with conformity expectations dimension (Y1) on consumer satisfaction with a correlation coefficient of 0.474 moderate strength levels. The subsidized rice carrier/bodyguard participates in maintaining security and responsible for goods delivery (condition and quantity of rice). The officer is willing to be contacted if there are complaints from subsidized rice recipients. This is according to consumer expectations and provides satisfaction to consumers.

The responsive dimension (X3.3) on the service quality variables has a close relationship with the conformity of expectation dimension (Y1.1) on customer satisfaction variable with a correlation coefficient of 0.434 moderate strength level. Consumer confidence (RTS) on rice received after purchasing subsidized rice is responsive, such as the officer is

ready to inform RTS when necessary, responds to RTS complaints and ready to replace poor condition rice or those with less weight in a sack. This indicates the responsiveness of the officer to provide comfort as per customer expectations.

The dimension of guarantee (X3.4) on service quality variables has a close relationship with conformity expectations (Y1.1) and no complaints dimension (Y1.2) on customer satisfaction variables with a correlation coefficient of 0.482 and 0.404 respectively moderate strength level. Guarantees on products in the form of fixed price, smooth monthly rice delivery, the availability of workers during rice unloading gives comfort and adhere to expectations therefore consumers do not file complaint.

The dimension of empathy/attitude (X3.5) on service quality variables has a close relationship with the conformity of expectations dimension (Y1.1) on customer satisfaction variables with a correlation coefficient of 0.445 with moderate strength level. The officers have a caring attitude in dealing with complaints. Similarly, the procedure of complaint service is easy and fast, providing convenience and satisfaction according to consumer expectations.

DISCUSSION OF RESULTS

Research result exhibits three independent variables of product, price, and service quality had a significant influence on subsidized rice consumer satisfaction distributed by BULOG in Raskin Program. Each variable is described as follows:

The Influence of Products on Consumer Satisfaction. H1 hypothesis shows a positive and significant effect of product variables on consumer satisfaction in Raskin program. Similarly with the results of regression analysis is a positive value coefficient means a positive influence between the products with customer satisfaction. These results indicate that a good assessment of the product is capable of satisfying consumer's needs, and vice versa. In addition, consumer experience in buying and consuming subsidized rice will result in an assessment of customer satisfaction. If the product can satisfy the consumer then the consumer will provide a positive assessment of the product. The findings are consistent with research conducted by Rosita (2006), Windoyo (2009), Donny (2009), Harjanto (2010), Asghar et al (2011) Budi (2012), Julius (2014) and Siti et al (2015), which stated that the product had a positive and significant impact on customer satisfaction.

Based on responses of respondents to the statement of all research variables known in general, respondents are not satisfied with product condition. The condition of rice is influenced by internal factors that are under BULOG control (Controllable Factor) and external factors that are outside BULOG's control (Uncontrollable Factor). To overcome rice conditions and domestic rice absorption target, BULOG must improve management in rice physical procurement, storage, and physical maintenance, and physical distribution in the following ways.

First of all, during internal physical procurement stage of rice, BULOG is suggested to perform the following actions:

- Conducting a mapping of potential harvests throughout Indonesia.
- Undertaking coaching to partners throughout Indonesia to ensure rice is properly delivered to BULOG.
- Enhancing grain procurement units *(stages*) in the regions through cooperation with various farmer groups throughout Indonesia.
- Improving existing infrastructure and strengthening infrastructure lease cooperation with second parties. Cooperation with BULOG partners must be equipped with several administrative requirements, including production capability, data on grain purchases from farmers, farmers' locations, and land area.
- Recruiting employees, employ educational and training programs to overcome obstacles on inadequate quantity and quality of human resources on duty in the field, especially procurement officers and supervisory / inspection officers on grain / rice quality.

- Establishing a standardized quality inspection process before produce enter the warehouse and stored in BULOG, aiming to deliver good rice quality in the hands of the beneficiaries. So far, there have been several cases that caused BULOG to receive complaints about the quality of rice distributed for Raskin's, which are unfit for consumption or in bad quality. To tighten rice quality entering the warehouse, there is need of standardization for the quality inspection process. Rice submitted by partners' parties should be checked by a special team, in a closed private room, so that there is no direct contact/communication and collusion with goods owners. During this time, the rice inspector should be posted in the warehouse, allowing goods owner to meet directly with the inspector. With the standardization of the quality inspection process, every case can be evaluated. Its origin, suppliers, and condition.
- Rice can not go in and out of BULOG warehouse from one area to another. If one place/warehouse rice can not enter the warehouse because it does not meet the standards, then the rice will not be able to enter another warehouse in Indonesia, - Rice stored in a warehouse are packed in 15 kg sack solely for the puIDRose of distribution in two months time, the rest is packed in 50 Kg sacks. Should large quantity of rice are packed in 15 kg sacks, it would be difficult to control and accountable for its quality.

Secondly, efforts could be undertaken on maintaining external factors are as follows.

- Proposed application of flexibility on Government Purchase Price (HPP) and Basic Price (HD) of rice and grain as the lowest price applicable at farmer to government levels. Applying HPP flexibility is conducted in order to adjust to the price of grain and rice at farmers level. Determining HD will also optimize the absoIDRtion of farmers rice during harvest because BULOG may buy above the basic price (HD), but not less than HPP.
- Rice harvest will simultaneously affect the condition of BULOG rice supply. During harvest, rice supply becomes abundant, then the price goes down, vice versa. BULOG is considered to be losing important momentum in the procurement of rice on a large scale during harvest season should HPP is not adjusted. Should the government set the purchase price of rice higher than the current HPP at IDR. 7,300 per kilogram during the rainy season harvest period, the BULOG warehouse would be filled with more rice in good condition.
- Another factor outside the control is the weather. During the rainy season, rice production will be abundant and prices will fall, and vice versa.

Thirdly, at the stage of storage and physical treatment of rice, the following actions should be taken into account.

- Treatment of rice on a regular basis in the form of spraying and fumigation so that the rice does not get infected by pest during distribution.
- Before the rice is distributed, it should be reprocessed again in order to clean the dirt (i.e rocks), then packed in 15 kg sacks.
- Setting up drier to maintain rice condition, especially during rainy season.
- Improving physical condition of rice warehouse, with the aim of controlling warehouse temperature to maintain stored rice quality; ensuring there's no leak in the warehouse, to store rice in a safe condition and maintained its quality; keeping birds and mice from entering storage area, in order to deter them from piercing the rice sacks and reduce rice quantum.

Finally, at the stage of physical distribution, efforts that can be done include improvement of monitoring and supervision management including applying strict penalty to transportation service companies appointed as the carrier in Raskin distribution, should they not implement the provisions in accordance with agreements. For instance:

- Ban violation on the use of ganco in loading and unloading rice sacks from and into distribution trucks;
- Violation against an obligatory use of tarpaulin cover over truckloads to keep rainwater from rice sacks;

- Violation on the total truck crew allowed.

Price Influence On Consumer Satisfaction. H2 hypothesis exhibits a positive and significant effect of price on customer satisfaction in Raskin program. These results indicate that the price determined will be influenced by the consumers' purchasing power, which ultimately satisfies consumers' needs. At the time of the purchase transaction, the consumer will compare product price with other existing similar product. If the product conforms to consumers purchasing power and possesses desired product specification which will satisfy the consumer.

Similarly, the results of regression analysis is a positive value coefficient means a positive influence between price and customer satisfaction. This means that consumers will choose a product with a relatively low price. In this study, consumers considered that the Raskin program subsidizes rice at affordable prices for RTS-PM and is below the general market price of IDR1,600 / kg with a share of 15 kg/month.

The findings of this study is in accordance with research conducted by Rosita (2006), Riky (2009), Aurimas (2009), Ryan (2010), Muhammad (2012) and Julius (2014), which states that prices have a positive and significant impact on customer satisfaction. Moreover, it is also in line with Kottler and Armstrong (2005) that the sum of the value traded by consumers worth the benefits of owning or using the product or service.

The result of respondent's analysis on the product value indicator, willingness and society purchasing power from the price dimension in this research, and based on the fact that Raskin Rice Price (HTR) was set IDR. 1,600 by the government Government in accordance with public purchasing power has been in effect for 7 years since 2008, indicating an opportunity for the proposed adjustment of the Raskin Price Redeem (HTR) which is still affordable for beneficiary purchasing power along with the improvement of product condition and service quality.

Service quality influence on Consumer Satisfaction. H3 states that service quality has a positive and significant impact on customer satisfaction in Raskin program. Therefore it can be concluded that Hypothesis 3 is accepted. This means consumers consider service quality set by BULOG is in accordance with consumers perception. Therefore it can increase consumer satisfaction in Raskin Program.

The findings of this study is in line with research conducted by Riky (2009), Mohammad (2009), Riyan (2010), Rahim (2010), Ariane (2011), Donny (2011), Asghar (2011), Budi (2012), Muhammad (2012), Siti (2015) and Ahmad (2015). Moreover, Adhiyanto (2012) states that the existence of good service quality within a company will create satisfaction for its customers. Once the customer is satisfied with the product or service it receives, the customer will compare the services provided by other similar companies. In this case, the quality of service performed by BULOG in supporting Raskin program can not be compared with other companies because BULOG is the only company engaged in food logistics and obtained public services assignment in distributing subsidized rice.

However, to improve customer satisfaction, BULOG needs to improve service quality, among others, including:

- Improving cooperation with other land transportation service companies, in addition to existing transport service companies, in an effort to increase the availability of truck fleets to distribute Raskin on time.
- Encouraging cooperation with land transport service company to implement all provisions of rice delivery from BULOG warehouse to distribution point (TD) in accordance with set requirements, to ensure Raskin distribution is in accordance with the schedule. Violations of these provisions will reduce the level of Raskin service.
- The addition of organic employees in the field, namely guards to directly supervise the delivery of subsidized rice to the distribution point in an effort to control, guarantee and account for the quality and quantum of subsidized rice to the beneficiary community.

Influence of Product, Price, and Service Quality to Customer Satisfaction. H4 states that product, price, service quality simultaneously affect the customer satisfaction in Raskin program. Based on the calculation result, F_{count} for this construct = 81.530 (F_{count}> 2,65), so it

can be concluded that Hypothesis 4 is accepted. This result can be inteIDRreted that rice medium managed by BULOG, pricing, and service quality has a positive effect on consumer satisfaction simultaneously.

CONCLUSION

The product has a partial significant effect on customer satisfaction. If the Product gets better, then the satisfaction will increase. The display dimension has a dominant relationship with the conformity of expectations.

Price affects partially significant to customer satisfaction. If the price is better, then the consumer satisfaction will increase. Price, product values, and purchasing power dimensions have a dominant relationship with no complaints dimension.

Service Quality is a partially significant influence on consumer satisfaction. If the quality of service is better, then consumer satisfaction will increase. The dimensions of tangibles and assurance have a dominant relationship with conformity and no complaints dimensions.

The product, price, and service quality have significant effect simultaneously to customer satisfaction equal to 54.8%, while the rest are influenced by another independent variable not observed in this research.

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APPLICATION OF QUANTILE REGRESSION TO ASYMMETRIC PRICE TRANSMISSION ESTIMATION: INSIGHTS FROM MONTE CARLO SIMULATIONS

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ABSTRACT
Paper introduces and compares performances of Quantile regression approach to the conventional Ordinary Least Squares methods for estimation of asymmetric price transmission model when the true data generating process is known. Monte Carlo simulation results indicate that the estimates of the coefficients of the asymmetric price transmission model derived from the Least squares and the Quantile regression approaches are accurate and equivalent or close to their true values for normal data regardless of variability in sample size. Least squares method is affected by outliers and yields inaccurate estimates of the coefficients of the asymmetric price transmission model across various sample sizes when the data contains outliers. Quantile regression estimation remains robust to outliers in large samples and provides estimates of the coefficients of the asymmetric price transmission model that are accurate and nearly equivalent to their true values. The evidence from Monte Carlo experimentation suggests that the proposed Quantile regression estimation is likely to do no worse than the OLS with normal dataset and promise to do better when the dataset has outliers within the asymmetric price transmission modelling context.

KEY WORDS
Monte Carlo Simulation, Quantile Regression Estimation, Granger and Lee Asymmetry, Ordinary Least Squares Estimation, outlier.

Over the years data used in measuring price asymmetry has been found to contain outliers. For example, some studies (Kind (2015), Douglas (2010) and Karfakis and Rapsomanikis (2007)) have found outliers in data used in price transmission analysis. Douglas (2010) investigated price asymmetry and found that the presence of outliers in price data generated evidence of spurious asymmetry. Kind (2015) also notes that data used in agricultural price analysis from developing countries are more often found to have outliers and as result, estimates obtained from such contaminated data lose their value. Karfakis and Rapsomanikis (2007) also noted in a spatial price analysis of selected agricultural commodities, that the error correction modelling methods are not robust to the presence of outliers in the price series. In effect, a common problem in price transmission regression analysis is the presence of outliers. Barnett and Lewis (1994) defined outliers as observations that appear inconsistent with the rest of data. Outliers may occur as a result of unusual but explainable events, such as faulty measurement, incorrect recording of data, failure of a measurement instrument, etc.

Though the conditional mean models such as the ordinary least squares (OLS) have been used extensively in asymmetric price transmission analysis, they have some limitations. Assumptions related to the random errors are not always satisfied in reality. The least squares regression model gives misleading results in the presence of outliers and may produce wrong estimates of the asymmetric adjustment coefficient, which provides the basis for detecting price asymmetry. In effect, erroneous conclusions will be made from the asymmetric price transmission model when the regular assumptions of the OLS are not met or when the data contains outliers.

An alternative approach to estimate asymmetric price transmission whilst concurrently accommodating outliers in the data is to employ Quantile regression approach. Quantile regression remains robust to outliers and has been met with success in estimation of linear

models in the presence of outliers as detailed in Koenker and Hallock (2001); Fox & Weisberg (2010); Bancayrin-Baguio (2009); and Julali and Babanezhad (2011). Though previous studies addressing outlier problems in asymmetric price transmission analysis have employed M-estimators (Acquah, 2017a) and Rank -based estimation (Acquah, 2017b), no studies has considered the use of the quantile regression approach in asymmetric price transmission estimation when the price data contains outliers.

Empirically, very little is known about the relative performance of Quantile regression and the OLS method for estimation of asymmetric price transmission models when the data contains outliers. To explore this issue, Monte Carlo methods are employed to investigate the performance of the OLS and Quantile regression in estimating the Granger and Lee asymmetry using data with and without outliers.

The paper is structured as follows. The introduction is followed by the methods section which discusses the Granger and Lee Asymmetric model, Ordinary Least Squares (OLS) method and Quantile Regression approach. The results and discussion present a practical application in which the performance of the OLS and Quantile Regression approach in estimating true values of the Granger and Lee asymmetric data generating process is evaluated and the results of the Monte Carlo simulations are presented. Finally, the study ends with a conclusion.

METHODS OF RESEARCH

Granger and Lee Asymmetry. To model asymmetric price transmission between two variables x and y integrated of the order one processes that are cointegrated the Granger and Lee (1989) Asymmetric Error Correction Model data generating process can be specified as follows:

$$\Delta y_t = \beta_1 \Delta x_t + \beta_2^+ (y-x)_{t-1}^+ + \beta_2^- (y-x)_{t-1}^- + \varepsilon_{1,t} \; \varepsilon_{1,t} \sim N(0, \delta^2) \qquad (1)$$

The long run equilibrium relationship between y and x is captured by a symmetric error correction term (y-x). Asymmetric adjustments can be introduced by segmentation of the error correction term into positive and negative components as follows:

$$(y-x)_t^+ = \begin{bmatrix} (y-x)_{t,} if \; (y-x)_t > 0 \\ zero \; otherwise \end{bmatrix} \qquad (2)$$

$$(y-x)_t^- = \begin{bmatrix} (y-x)_{t,} if \; (y-x)_t < 0 \\ zero \; otherwise \end{bmatrix} \qquad (3)$$

In order to incorporate asymmetric adjustments effects, the speeds of adjustments are allowed to differ for the positive and negative components of the Error Correction Term (ECT) since the equilibrium relationship captured by the ECT is symmetric. The test for symmetry in eq. (1) is conducted by determining whether the coefficients (β_2^+ and β_2^-) are identical (that is $H_0 : \beta_2^+ = \beta_2^-$). The Granger and Lee Asymmetric Error correction model in eq. (1) can be considered as a standard regression model and the estimation of its parameters can be done using Ordinary Least Squares method and Quantile Regression technique. Empirical results are computed for the two techniques and compared.

Ordinary Least Squares Estimation (OLS). The OLS is a technique for fitting the best straight line by minimizing the sum of squared errors. In the OLS a squared error loss function, $l(e) = \varepsilon^2$, is employed. Estimate of the conditional mean of the dependent variable can be obtained by minimizing the sum of squared residuals. When the conditional mean is linear in x, $E[y \mid x] = x'\beta$, the sample mean u solves:

$$\arg\min \sum_{i=1}^{n} (y_i - u)^2 \qquad (4)$$

The sample mean can be used to obtain the unconditional population mean by replacing u with $x'\beta$ and solving:

$$\arg\min \sum_{i=1}^{n} (y_i - x'\beta)^2 \qquad (5)$$

Quantile Regression. Quantile regression was first introduced by Koenker and Bassett (1978; 1982) as a robust alternative to least-squares regression. In quantile regression, quantiles of the conditional distribution of the dependent variable are expressed as a function of observed independent variables. Quantile regression offers a number of advantages over least-squares methods. For example, quantile regression does not require the restrictive assumptions of least-squares regression (assumes that the error terms are normally distributed with a mean of zero and a constant variance). Furthermore, since quantile regression estimates quantiles of the conditional distribution rather than the mean, it is more resistant to outliers than least-squares methods (Leider, 2012). The linear quantile regression model is given by the conditional quantile functions (indexed by the quantile τ).

$$Q_y(\tau \mid x) = x_i^T \beta; \qquad (6)$$

$Q_y(\tau \mid x)$ denotes the τ –quantile of y conditional on x. Estimates are obtained by minimizing $\sum_i \rho_\tau (y_i - x_i^T \beta)$ with respect to β where for $\tau \in (0,1)$, ρ_τ denotes the pairwise linear function $\rho_\tau(u) = u\{\tau - I(u<0)\}$, I being the indicator function. This is a linear programing problem. Estimating the quantile regression at $\tau = 0.5$, gives the special case of the median regression which is implemented in this study.

RESULTS AND DISCUSSION

Quantile Regression and Ordinary Least Squares for Estimation of Price Asymmetry. The true data generating process in the context of the Granger and Lee asymmetric error correction model can be specified as follows:

$$\Delta y_t = 0.7 + 0.5\Delta x_t - 0.25(y_t - x_t)^+_{t-1} - 0.75(y_t - x_t)^-_{t-1} + \varepsilon \qquad (7)$$

The variables y_t and x_t are are non-stationary variables that are integrated of the order one. A cointegrating relationship exists between y and x which is defined by the error correction term $(y_t - x_t)_{t-1}$. The positive and negative components of the error correction term are represented by $(y_t - x_t)^+_{t-1}$ and $(y_t - x_t)^-_{t-1}$. The errors are normally distributed with a mean 0 and a variance of 1 [$\varepsilon \sim N(0,1)$] for normal data. In order to create data with outliers, nine observations of the errors generated for the normal data with values generated from the normal distribution with a mean of 0 and a variance of 1 is replaced with nine observations from the normal distribution with a mean of 20 and variance of 1 ($\varepsilon \sim N(20,1)$).

In order to investigate the performance of the Quantile regression ($\tau = 0.5$) and OLS in estimating the true values of the asymmetric price transmission model, 1000 regressions based on the Granger and Lee model specified in eq. (7) is estimated. The Monte Carlo studies are conducted under conditions of different sample sizes (50,150 and 500) and

asymmetry given by $(\beta_2^+, \beta_2^-) \in (-0.25, -0.75)$ for the normal data as well as the data with outliers. This study draws from Cook et al (1999, 2000) and Acquah (2012, 2013) to assign the asymmetric adjustment parameters (β_2^+, β_2^-).

The results derived from the Monte Carlo experimentation for the normal data are reported in Table 1. Results of 1000 Monte Carlo simulations indicate that the estimates of the coefficients of the asymmetric price transmission model obtained from the Quantile regression analysis are accurate and close to their true parameter values for the data without outliers (Normal data) with small and moderate sample sizes (50 and 100). The estimates of the coefficients of the asymmetric price transmission model derived from the least squares methods are accurate and equal to their true parameter values for the data without outliers (Normal data) with small and moderate sample sizes (50 and 100). Notably, the estimates of the coefficients of the asymmetric price transmission model derived from the Least squares method and the Quantile Regression analysis are accurate and equivalent to their true parameter values for normal data with large sample size (500).

In summary, Table 1 demonstrates that in the absence of outliers, the OLS and Quantile regression analysis performed well, with the averaged estimates all nearly equivalent or close to their true values of $\beta_0 = 0.7, \beta_1 = 0.5, \beta_2 = -0.25, \beta_3 = -0.75$ regardless of the different sample sizes. These results are consistent with Ryan (1997) who noted that robust regression estimation technique performs almost as well as OLS when the data has no outliers.

Table 1 – Normal Data (Without Outliers)

Sample Size	Properties of Data	Method	Estimates			
			β_0	β_1	β_2	β_3
N=50	Normal	OLS	0.70	0.50	-0.25	-0.75
		Quantile Regression	0.70	0.50	-0.25	-0.75
N=150	Normal	OLS	0.70	0.50	-0.25	-0.75
		Quantile Regression	0.70	0.50	-0.25	-0.74
N=500	Normal	OLS	0.70	0.50	-0.25	-0.75
		Quantile Regression	0.70	0.50	-0.25	-0.75

Based on 1000 Monte Carlo Simulation.

The results derived from the Monte Carlo experimentation for the data with outliers are reported in Table 2. Results of 1000 Monte Carlo simulations indicate that the estimates of the coefficients of the asymmetric price transmission model derived from the Quantile regression analysis are accurate and close to their true parameter values for the data with outliers in large sample (500). Generally, as sample size increase from small through moderate to large sample, estimated coefficients of the asymmetric price transmission model move closer to their true parameter values in the Quantile regression analysis.

In the presence of outliers, the ordinary least squares method performed poorly as illustrated in Table 2. In small, moderate and large samples of 50, 150 and 500 respectively, the ordinary least squares (OLS) estimator performs poorly with its parameter estimates entirely different from the true parameter values of $\beta_0 = 0.7, \beta_1 = 0.5, \beta_2 = -0.25, \beta_3 = -0.75$ as specified in the data generating process. This is consistent with Chatterjee and Hadi (1986) who noted that outliers may have a marked influence on parameter estimates in linear regression analysis.

The foregoing discussion points to the fact that the results of the quantile regression analysis are similar to that of the ordinary least squares and close to their true values when the data contains no outliers. However, when the data contains outliers, the least squares is affected by outliers in small, moderate and large samples whilst the quantile regression analysis remains robust to outliers in large samples.

The results are consistent with Fox and Weisberg (2010) assertion that robust methods such as Quantile regression estimation methods perform much better than OLS when the

data has outliers. Similarly, Bancayrin–Baguio (2009) note that quantile regression estimation technique gives better asymptotic efficient estimates for the coefficients of the regression model than the least squares method.

Table 2 – Data with Outliers

Sample Size	Properties of Data	Method	Estimates			
			β_0	β_1	β_2	β_3
N=50	With Outliers	OLS	3.04	0.50	-0.16	-1.08
		Quantile Regression	0.87	0.50	-0.24	-0.77
N=150	With Outliers	OLS	1.00	0.47	-0.44	-2.01
		Quantile Regression	0.72	0.50	-0.26	-0.83
N=500	With Outliers	OLS	1.00	0.50	-0.26	-0.52
		Quantile Regression	0.72	0.50	-0.25	-0.73

Based on 1000 Monte Carlo Simulation.

Furthermore, the results are consistent with additional studies (Julali and Babanezhad (2011), Koenker and Hallock (2001) and Koenker and Bassett (1978; 1982) which assert that the quantile regression is a robust alternative to the least squares method when the data contains outliers.

CONCLUSION

The performance of quantile regression analysis have been investigated in asymmetric price transmission regression modelling. The findings suggest that the quantile regression approach yield similar results as the OLS with normal data. However, when outliers are present in the data, the least squares does not provide accurate estimates of the coefficients of the true asymmetric price transmission model in small, moderate and large samples of data. Quantile regression estimation, on the other hand, is robust and provides precise estimates of the coefficients of the true asymmetric price transmission model in large samples. The results of the Monte Carlo simulation indicate that the Quantile regression estimation can be considered an alternative to the OLS technique in asymmetric price transmission estimation and may yield accurate results in large samples when the data contains outliers.

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HOW ARE THE EFFECTS OF PROFITABILITY AND CAPITAL STRUCTURE ON STOCK RETURN WITH INFLATION AS A MODERATION VARIABLE?

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ABSTRACT
This study aims to determine the effect of profitability and capital structure on stock return with inflation as a moderation variable; thus, it can reveal the strength or the weakness of the effect on stock return. Furthermore, financial statement data in this present research consist of 120 data from five manufacturing industry companies using method of analysis of General Linear Model. The result of this research is that profitability gives effect on increasing stock return of company and also the high capital structure increases company's stock return. Moreover, this study also reveals that inflation can moderate both profitability toward stock return and capital structure toward stock return. On the other hand, investor can see the three variables as a consideration for investment decision making.

KEY WORDS
Capital structure, inflation, profitability, stock return.

Investor uses company's financial information in shaping expectation of future profits from the capital invested in the company (Linck and Decourt, 2016). It is due to the reason that for an investor, the significant aspect they have to consider when evaluating an investment is how much potential that will be paid in the future compared to the risks that investor will get. Investor employs various ways to obtain the expected level of purchase, both by self-analysis and by realizing advices given by capital market analysts. Expectation regarding to financial performance of the company is essential in determining the company's stock price and it will give an impact on stock return level.

The financial performances in this study that affect stock return are profitability and capital structure. Profitability becomes one of the measurements of company's management effectiveness. Similarly, the company that uses funding sources to strengthen the capital structure cannot be considered as simple, but it is a strong implication towards what will happen in the next future.

The company's financial performance is not the main factor affecting stock return on a company. It is due to the fact that there are still many factors that affect stock return caused by other macro such as economy factor and market imperfection (Dehuan and Jin, 2008). Predicting return of a company needs information that can be clearly expressed in a financial statement. The published financial statements are considered having significance in assessing a company (Lev and Thiagarajan, 1993).

Therefore, the different effects of economy factor on stock return level support the idea that the stock market reacts rationally towards inflation and expected output growth (Sangkyun, 1997). Inflation is a tendency of occurrence in increasing the whole products' price. High inflation reduces the level of real income that investor gets from investment (Tandelilin, 2010). On contrary, if nation's inflation rate decreases; then it is a positive signal for investor to be in accordance with the decrease of purchasing power risk and the risk of real income decrease.

Inconsistent results provided in previous studies become the step to take alternative approach used in this present research. Inconsistent results open possibilities for moderating variables that may strengthen or weaken the effect of financial performance on stock return (Purnomo, 2013).

Hence, this present research is an attempt to examine the causal relationship between profitability and company capital structure in Indonesia with certain macroeconomic variables

as moderation variables. It is with the research applied to manufacturing companies in Indonesia's stock market.

THEORETICAL FRAMEWORK

Dehuan and Jin (2008) explicate that the relationship between the company's stock return and its operating performance has been the research significant concern in recent years, however its research results are uncertain or inconsistent. Sangkyun's research (1997), in his study, found a positive relation on inflation toward stock return during the period of 1956 until 1995. Research data uses monthly data and quarterly financial data taken from the United States (U.S). The relative relation gives effect to inflation on stock return. This Inflation also uses monthly and quarterly data.

Moreover, Rahmani et al., (2006) examine about debt-to-equity ratio. However, the model is not significant for 2000 and 2001. In the single, D / E variables ratio is statistically insignificant. Besides, Dehuan and Jin's Research (2008) state that company's performance affects stock return on Shanghai stock exchange. It is in a study to investigate the relation between company performances regarding to Return on Assets. The variable return on assets (ROA) is significant in either one or two of the five-year examining period. The research conducted by Singh et al., (2011) reveals the relation between stock return and macroeconomic inflation variables. The results of the research conclude that the rate of inflation has a significant effect on stock return. Ouma and Muriu's research (2014) examines inflation towards stock return in Kenya during 2003-2013 periods using the Arbitrage Pricing Theory (APT) framework and Capital Asset Pricing Model (CAPM) model for monthly data. Ordinary Least Square (OLS) technique is applied to examine the validity of the model and the relative significance of different variables. Inflation affects stock return in Kenya's capital market. Inflation is found to be a significant return determinant in the NSE.

Hayat and Syed (2014) conduct a study aiming to know the impact of inflation on the stock market return of Karachi Stock Exchange and Pakistan's Bank website. The study uses the Augmented Dickey Fuller (AFU) root test to obtain the stationary data level and to find that the two variables are stationary at the first difference. The integration in this study is similar, so the study applies *Johansen Co-integration* test and concludes that there is a significant negative and long-term relation between the rate of inflation and the rate of the stock return. The increase in inflation gives negative impacts on stock prices that lead to the whole stock market. The research of Bora and Ag (2014) considers the effect of independent variables on stock return namely debt to equity ratio. The data used in the research are companies listed in the US and Turkish Markets as well as assessing their relation in terms of variables and panel data methods. The results of this study are relatively high and statistically significant; however it only occurs in the US' stock market and it does not occur in Turkey's stock market.

Return is the output gained from investment activity. It can be either in the form of the realized return that has occurred or the expected return that has not happened yet but it is expected to happen in the future. Stock Return is the profit or loss generated by investor from the stock market. Stock Return is highly important because it is the main purpose of investment in common stock. In the secondary market, an investor can get a stock market return by buying stock at a lower price and selling it at a higher price level (Ibrahim and Bala, 2017).

Profitability ratio is the ratio to examine the company's capability to gain profit. It is the definition of profitability proposed by Kasmir (2011). According to Brigham (2006), it is mentioned that profitability is the final output of the company's management performance, both in decision-making and policy run by associated management regarding to the use of funds for the realization of the company and the company's funding sources; so it is made one in a report namely balance sheet.

Capital structure is the ratio between debt and equity; capital structure is an essential problem in making decision about purchase (Yasa, 2013). According to Bhandari (1988),

theoretically when the debt total of a company replaces its equity total, the shareholder will demand a high rate of return on his or her share because of the high risk of bankruptcy.

Inflation is a tendency of prices which generally increase or decrease continuously (Mankiw, 2003). The increase is a widespread increase (various sectors). Inflation is one of the nation's economy measurements. It is also a condition that arises because there is no balance between demand for goods and its supply. High inflation leads to a decrease of the company's profits which makes equity effects become less competitive (Hayat and Syed, 2014). From the previous studies, the hypothesis in this study is shown in Figure 1.

H1: The higher profitability, the higher stock return.

H2: The greater capital structure, the higher stock return. In this present study, inflation is used as a moderation variable.

H3a: Especially for high inflation period, companies having high ROA will gain larger stock returns than companies having few ROA.

H3b: Especially for the company's ROA condition which is less, companies experiencing low inflation has a stock return more than companies experiencing high inflation.

H3c: Especially for low inflation period, companies having high ROA will gain higher stock returns than companies having few ROA.

H4a: Especially for high inflation period, companies having many DERs will gain larger stock returns than companies having few DER.

H4b: Especially for the condition where the companies having few DER, companies experiencing low inflation has more stock return than companies experiencing high inflation.

H4c: Especially for low inflation period, companies having many DERs will gain more share returns than companies having few DER.

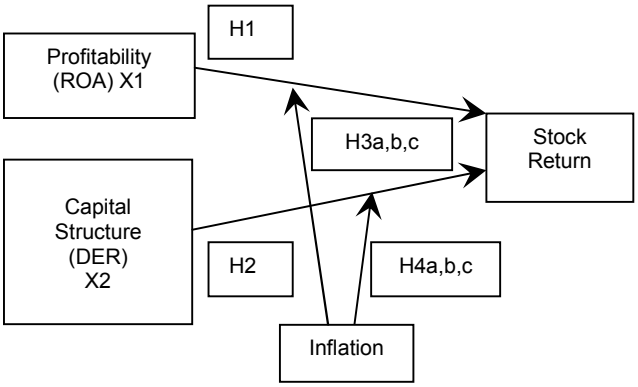

Figure 1 – Method of Research Hypothesis
(Source: Previous Studies that have been re-processed, 2017)

METHODS OF RESEARCH

The data employed is financial statement data of manufacturing industry companies listed on Indonesia Stock Exchange (IDX) starting in 2011-2016. To know whether there is a relation between stock return and financial ratio, this present study utilizes non-hierarchical statistical model with data processed using General Linear Model (GLM) statistical software (Agung, 2006). In data analysis, basically it has an aim to study the difference of in-average response variables or indicators of certain problems between individual groups including in testing hypotheses about the differences in the population which is under review. The average cell function has a reciprocal relation with the cell's average table. It can be seen on the table that presents the mean (average) of the dependent variable or indicator of a particular problem by a factor or multifactor (Agung, 2005). The samples in this research are five manufacturing industry companies in which each company has quarterly financial statement data for six years. Therefore, the sample data used is of 120 data.

It is about the company's capability to make profit. Profitability in this study will be projected towards the return on Assets (ROA) (Sugiyono, 2009). The long-term permanent funding of the company is represented by debt, equity, preferred stock, and common stock. This research is the capital structure research specifically Debt to Equity Ratio (DER) (Kasmir, 2011). Inflation or the price increase caused by the scarcity of production that affects the increase in production costs (Insukindro, 1993). Return is the level of profit obtained by investor on an investment that he or she performs (Jogiyanto, 2013). Data analysis technique used in the present research is descriptive-comparative statistic which is a technique of data analysis utilized by describing data which have been accumulated as the presence of independent variable value, either one variable or more; then make a comparison or connect between one variable and the other variable proceeded by making conclusion applied to the public or generalization (Sugiyono, 2009). The classical assumption test is a test used to determine whether the multiple regression model employed in this study meets the classical assumption or not (Ghozali, 2016).

RESULT OF STUDY

The analysis in this study, as it can be seen in Table 1, where the test of hypothesis 1 using the statistical F test on the path 'ROA' where F0 = 33,951 (Sig 0,000), with the degree of freedom 1/116. It reveals the rejection of H0, so it can be concluded that the data supports the proposed hypothesis. It shows that stock return is affected by ROA. The company's high profit will increase the company's stock return in manufacturing industry companies in Indonesia.

Table 1 – Test of Between-Subject Effects

Dependent Variable: Stock Return

Source	df	F	Sig.
Corrected Model	3	15,920	,000
Intercept	1	,981	,324
ROACODE	1	33,951	,000
INFLASICODE	1	,205	,652
ROACODE * INFLASICODE	1	1,851	,176
Error	116		
Total	120		
Corrected Total	119		

Source: Data that have been processed by using SPSS statistical tool.

Table 2 – Parameter Estimate Design A (A*B)

Parameter Intercept	Note	B	β	t	Sig.
		-,481	β0	-5,868	,000
[ROACODE=1,00]	ROA = 1	,895	β1	5,082	,000
[ROACODE=2,00]	ROA = 2	0[a]		.	.
[INFLASI CODE=1,00]	INF = 1	,113	β2	,642	,522
[INFLASI CODE=2,00]	INF = 2	0[a]	-	-	-
[ROACODE=1,00] * [INFLASI CODE=1,00]		-,339	β3	-1,361	,176

Source: Data that have been processed by using SPSS statistical tool.

Table 2 shows the testing of hypothesis 3, the values that will be tested are in the "inflation" group, by comparing the many ROAs and the few ROAs with the efficient coefficients. This test is conducted to see the difference of gap in stock return, mean deviation (Y) formed by the many ROA (ROA = 1) profitability (ROA), and the few ROA (ROA = 2) both in inflation group (INF), low inflation (INF = 1) and high inflation (INF = 2) after considering the similar linear ROA (X) on stock return (Y) in all cells. The results of the

analysis support hypothesis H3a: Especially for high inflation periods, companies having high ROA will gain larger stock returns than companies having few ROA. (β1), with sig. value of 0,000 (<0,05). In the test results, it is found that the results of the analysis do not support the hypothesis of H3b: Especially for the company's ROA condition which is less, companies experiencing low inflation has a stock return more than companies experiencing high inflation (β2), with sig. value of 0,522 (> 0,05).

In the result of H3c hypothesis: Especially for low inflation period, companies having high ROA will gain higher stock returns than companies having few ROA (β3) with sig. value of 0,176 (> 0,05). The analysis in this study, as can be seen in Table 3, where the test of hypothesis 1 using the statistical F test on the path 'DER' where F0 = 27,956 (Sig 0,000), with the degree of freedom 1/116. It reveals the rejection of H0, so it can be concluded that the data supports the proposed hypothesis. It also shows that stock return is affected by DER. A high capital structure for company's expansion costs will increase the company's stock return on manufacturing companies in Indonesia with a debt-to-equity level limit.

Table 3 – Test of Between-Subject Effects

Source	df	F	Sig.
Corrected Model	3	13,623	,000
Intercept	1	2,057	,154
DERCODE	1	27,956	,000
INFLASICODE	1	,974	,326
DERCODE * INFLASICODE	1	1,461	,229
Error	116		
Total	120		
Corrected Total	119		

Source: Data that have been processed by using SPSS statistical tool.

This test is done to see the difference gap in stock return, mean deviation (Y) formed by many DER (DER = 1) capital structure (DER), and few DER (DER = 2) both in inflation group (INF), low inflation (INF = 1) and also high inflation (INF = 2) after considering the similar linear DER (X) on stock return (Y) in all cells. The results can be seen in Table 4 for testing hypothesis 4, the values that will be tested are in the "inflation" group by comparing the many DER and the few DER with efficient coefficients.

Table 4 – Parameter Estimate Design A (A*B)

Dependent Variable: *Stock Return*

Parameter	B	β	t	Sig.
Intercept	,233	β0	1,722	,088
[DERCODE=1,00]	-,743	β1	-4,593	,000
[DERCODE=2,00]	0[a]	-	.-	-.
[INFLASICODE=1,00]	-,025	β2	-,157	,876
[INFLASICODE=2,00]	0[a]			
[DERCODE=1,00] * [INFLASICODE=1,00]	,277	β3	1,209	,229

Source: Data that have been processed by using SPSS statistical tool.

The results of the analysis support hypothesis H4a: Especially for high inflation period, companies having many DERs will gain larger stock returns than companies having few DER (β1), with sig. value of 0,000 (<0,05). In the result of hypothesis 4b testing, it is found that the results of analysis do not support hypothesis 4b: Especially for the condition where the companies having little DER, companies experiencing low inflation has more stock return than companies experiencing high inflation (β2), with sig. value of 0,876 (> 0,05). On the other hand, the result of hypothesis 4c testing, it is found that the results of analysis do not support H4c: Especially for low inflation period, companies having many DERs will gain more share returns than companies having little DER (β3) with sig value of 0,229 (<0,05).

DISCUSSION OF RESULTS

In the results of testing on hypothesis 1, it is found that the analysis results support hypothesis 1 that the higher profitability, the higher stock return. The results of this study are in line with the results of previous research conducted by Dehuan and Jin (2008) stating that there is a significant relation between ROA and stock return. It shows that ROA that becoming larger describes the company's better performance and investor will be interested in investing capital in the company so that if ROA increases, it will increase the stock price and will affect the increase of stock return as well.

Besides, in the results of testing on hypothesis 2, it is found that the results support H2 hypothesis that the greater capital structure, the higher stock return. The results of this study are in accordance with the results of previous research conducted by Bora and Ag (2014) explicating that there is a significant relation between DER and stock return. An increase in a company's DER increases the risk of a joint equity. With a higher level of risk, the expected rate of return is also higher.

Furthermore, in the results of testing on hypothesis 3a, it is found that the analysis results support hypothesis 3a which is especially for high inflation periods, companies having high ROA will gain larger stock returns than companies having few ROA. The results of this study support the results of previous research conducted by Sangkyun, (1997); Singh et al., (2011); Ouma and Muriu (2014); Hayat and Syed (2014) emphasizing that inflation has a significant effect on stock return.

Next, in the result of testing on hypothesis 3b, it is found that the result of analysis does not support hypothesis 3b that especially for the company's ROA condition which is less, companies experiencing low inflation has a stock return more than companies experiencing high inflation gives result that inflation does not have significant effect on stock return.

Moreover, in the results of testing on hypothesis 3c, it is found that the results of the analysis do not support the hypothesis 3c stating that especially for low inflation period, companies having high ROA will gain higher stock returns than companies having few ROA gives results that ROA is not significant towards stock return. Besides, in the results of on hypothesis 4a testing, it is found that the analysis results support the hypothesis 4a which is especially for high inflation period, companies having many DERs will gain larger stock returns than companies having few DER. In other words, if the DER is below 1.00, it indicates that the company's stock is larger than the loan owned by the company; therefore even if the DER is high, but it is still within the limit of the highest figure of 1.

Next, in the testing results in hypothesis 4b, it is found that the analysis do not support the hypothesis 4b stating that especially for the condition where the companies having few DER, companies experiencing low inflation has more stock return than companies experiencing high inflation. Ultimately, the testing results in hypothesis 4c reveal that the analysis do not support the hypothesis 4c which is especially for low inflation period, companies having many DERs will gain more share returns than companies having few DER. The results of this study support the results of previous research conducted by Rahmani et al., (2006) proving the result that DER does not give significant effect on stock return. The many DER does not attract the interest of the investor because the investor considers that company having many debts, especially from debt loans (creditor), goods will become the interest burden of the company.

CONCLUSION AND SUGGESTIONS

The first result of this study is that the profitability (ROA) affects stock return. It is shown that the higher profitability (ROA) of manufacturing companies, the higher the stock return (the first hypothesis is supported). The high profitability (ROA) becomes the interest of investor to invest in manufacturing companies because it will make high stock return.

The second conclusion from the results of this study is that the higher the capital structure (DER), the more increasing stock return (the second hypothesis is supported). Based on the results of the present research, the large DER with the DER value which still

has normal limit will be very attractive for investor to invest in the manufacturing companies. Because investor can see that the high DER is obtained to re-manage or used for company's expansion decisions. If the high DER is caused by the amount of current debt is greater than long-term debt, it can still be accepted because the amount of current debt is often caused by short-term operating debt.

With the result of research moderated by variable inflation research, it can be taken a result that inflation can moderate the relation between profitability on stock return and capital structure on stock return.

Limitation in this study can be used as a basis for upcoming researches which are more focused. The industry used in this research is only in the Manufacturing Company Listed in Indonesia Stock Exchange period in 2011 until 2016; moderation variables used in this study are just the inflation variables.

By considering other industry sectors, other industry companies' data can be used in order to know the results from different industry sectors. In the further moderation research, macroeconomic factors of the company consist of some others such as interest rates and exchange rates; and it can be used as a reference for further research. Investor, in this case, is related to invest in stock of manufacturing companies; variable profitability, capital structure, and macroeconomic inflation will be a good consideration in decision making.

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EFFECT OF QUALITY CONTROL SYSTEM ON AUDIT QUALITY WITH PROFESSIONAL COMMITMENTS AS A MODERATION VARIABLE

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ABSTRACT
This study aims to test the effect of every element of Quality Control System (QCS) that is leadership responsibilities for quality on audit, relevant ethical requirements, acceptance and continuance of client relationships and certain engagements, assignment of engagement team, engagement performance, monitoring, and documentation on audit quality as well as to test whether the professional commitment moderate effect of every element of QCS on audit quality. The population was the staff auditors working in public accounting firms domiciled in Jakarta City, especially Central Jakarta area with the drawing of 84 respondents. The statistical method used was SEM PLS with the help of SmartPLS application. The results of this study indicate that from seven elements of QCS, only relevant ethical requirements that affect on audit quality. Furthermore, the study also found that professional commitment cannot moderate the relationship between the seven elements of QCS on audit quality.

KEY WORDS
Quality control system, audit quality, professional commitment.

In the public accounting profession audit quality becomes a thing to be considered because the public and the users of financial statements put great confidence in the results of the work of public accountants in auditing corporate financial statements (Christiawan, 2005). But in Indonesia, there are several cases of public accountants and public accounting firms violating the Public Accountant Professional Standards (SPAP), so they subject to sanctions for the freezing of licenses until the revocation of licenses by the Ministry of Finance of the Republic of Indonesia (www.pppk.kemenkeu.go.id). This phenomenon indicates that not all public accountants and public accounting firms produce good audit quality.

One of the efforts to improve audit quality is by implementing quality control system (QCS) (SPAP; Susanto dan Pratita, 2012; Fauji, 2015; Renianawati *et al.*, 2016). QCS provides reasonable assurance that the public accounting firm and its personnel comply with professional standards and applicable legal and regulatory requirements, and reports issued by the firm or engagement partners are appropriate in the circumstances (SPM 1). In addition, the implementation of QCS also provides guidance for public accounting firm and Public Accountant in implementing quality control of the services produced by it (SPAP). The higher the level of QCS implementation conducted by the public accounting firm, the higher the level of trust of audit quality given to the client (Pramana, 2014; Liliawati (2006); Ramadhani (2013); Wijayanto (2014), dan Renianawati *et al.*, 2016).

In SPAP 2013, the QCS is contained in the Quality Control Standard 1 (SPM1) and Standard Audit (SA) 220. SPM 1 and SA 220 states that the SPM consists of policies and procedures, which the policies and procedures shall include all elements specified in the standards. The policies and procedures are used as guidelines for public accounting firms to control the quality of services produced by public accounting firms. From the above explanation can be concluded that the elements that exist in the QCS are expected to improve the audit quality of public accounting firms.

Nasution (2008) shows the elements of QCS that affect the quality of audits through good field work are supervision, consultation, and inspection. Maulidiani and Witjaksono (2013) proved in their research that the implementation of QCS affect the quality of audit with

Independence as the dominant element affecting audit quality. Meanwhile, in Fauji (2015), not only the independence that becomes an element in the QCS that affects audit quality but personnel assignment, consultation, supervision are also elements affecting audit quality.

The difference of research result about the elements of QCS that affect the quality of audit indicate that not all elements in QCS have an effect on audit quality audit (Maulidiani dan Witjaksono, 2013; Fauji, 2015). It motivates the authors to re-examine the effect of QCS elements on audit quality and motivate the authors to add professional commitment as a moderating variable in this study.

Jeffery *et al*. (1996) revealed that public accountants with professional commitment regards obedience to rules is important, so public accountants are more likely to comply with the standards and rules set by the profession (Lui *et al*., 2001) and public accountants will not engage in adverse activities for the organization (Greenfield *et al*., 2008).

In this case, QCS is one of the standards that must be owned by public accounting firm that serve as guidance in implementing quality control of the services produced by public accounting firm. Therefore, professional commitment may be able to moderate the effect of the QCS elements of the public accounting firm on audit quality.

Gaps between the study and previous studies are (1) This study uses all the elements contained in the QCS that are regulated in SA 220, that is leadership responsibilities for quality on audit, relevant ethical requirements, acceptance and continuance of client relationships and certain engagements, assignment of engagement team, engagement performance, monitoring, and documentation as variables in this study to predict the effect on audit quality. Previous studies have used QCS elements contained in Quality Control Standard Section 100 which is valid since 1998 and not yet adjusted to International Standards on Auditing (ISA). (2) This study adds moderation variable that is professional commitment which possibly can moderate he effect of the QCS elements of the public accounting firm on audit quality.

LITERATURE REVIEW

Leadership responsibilities for quality on audit (LRA). Leadership responsibilities for audit quality is policies and procedures designed to promote an internal culture recognizing that quality is essential in performing engagements and to provide reasonable assurance that the firm leadership is responsible for the quality of the Firm, as well as any person or persons assigned operational responsibility for the firm's system of quality control has sufficient and appropriate experience and ability, and the necessary authority, to assume that responsibility (SPM 1).

Relevant ethical requirements (RE). Relevant ethical requirements is policies and procedures to provide reasonable assurance that the firm and its personnel comply with relevant ethical and independence requirements (SPM 1).

Acceptance and continuance of client relationships and certain engagements (ACR). Acceptance and continuance of client relationships and certain engagements is quality control policies and procedures to determine whether the engagement of the client will be accepted or continued by considering client's competence, capability and resources and integrity, and other information (SPM 1).

Assignment of engagement team (AE). Assignment of engagement team is the policies and procedures to provide reasonable assurance that the assignment will be carried out by the appropriate personnel with the necessary competence, and capabilities to perform engagements in accordance with professional standards and applicable legal and regulatory requirements and to issue reports that are appropriate in the circumstances (SPM 1).

Engagement performance (EP). Engagement performance is a policies and procedures to provide reasonable assurance that engagements are performed in accordance with professional standards and applicable legal and regulatory requirements (SPM 1).

Monitoring (M). Monitoring is the policies and procedures to provide reasonable assurance that the policies and procedures relating to the system of quality control are relevant, adequate, and operating effectively (SPM 1).

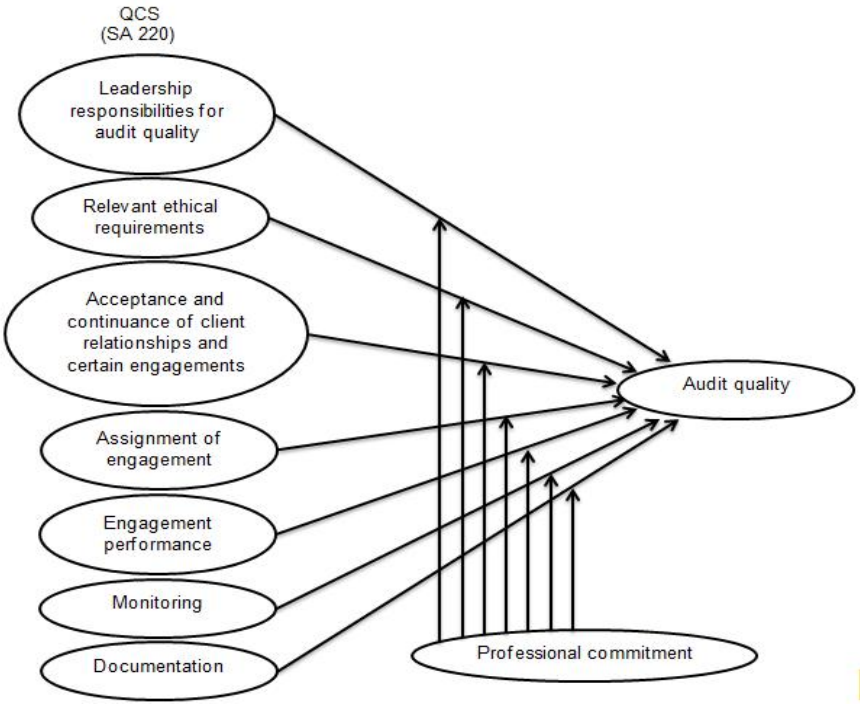
Documentation (D). Documentation is the policies and procedures to provide reasonable assurance that do documentation that proves the operation of each element of the quality control system (SPM 1).

Professional commitment (PC). Professional commitment is a belief in and acceptance of the goals and values of the profession, a willingness to exert considerable effort on behalf of the profession, and a definite desire to maintain membership in the profession (Aranya et al., 1981).

Audit quality (AQ). Audit quality is a probability that auditors will find violations in the client's accounting system and report the violation (De Angelo, 1981). Audit quality is also interpreted as the audit conducted in accordance with the standards (Rosnidah, 2010).

Research Model and Hypothesis Development:

This study will test audit quality produced by public accounting firms by using elements of QCS as a variable that affect audit quality and add professional commitment as a variable that moderate the relationship between QCS and audit quality.



Figures 1 – Research Model

Elements of QCS selected as the variables that affect the quality of the audit because in the QCS consisting of policies and procedures that should cover all elements in the QCS set by the standard to control the quality of services produced by public accounting firms (SPM 1 dan SA 220). The elements that exist in the quality control system is expected to improve the quality of public accounting firms audit. Therefore, the author uses elements that exist in the quality control system as independent variables that affect the quality of the audit as the dependent variable.

The elements in the quality control system relate to each other (SPM Section 100) and there is no element that matters most than any other (Fauji, 2015). Therefore, all elements of QCS are used as a variable to obtain a comprehensive view of the QCS and can be known which elements of the QCS affect audit quality. The hypothesis in this study that states the effect of QCS elements on audit quality, including:

H_1: Leadership responsibilities for quality on audit affects audit quality;

H_2: Relevant ethical requirements affects audit quality;

H_3: Acceptance and continuance of client relationships and certain engagements affects audit quality;

H_4: Assignment of engagement team affects audit quality;

H_5: Engagement performance affects audit quality;

H_6: Monitoring affects audit quality;

H_7: Documentation affects audit quality.

Professional commitment in the context of an auditor is defined as the extent to which the individual auditor considers the standards and codes of ethics as a key attribute of the profession and believes the standards and codes of ethics must be strictly binding and enforced within the domain of public accountants (Gendron *et al*., 2006). Meanwhile the QCS is a standard used as guidelines for public accounting firms to control the quality of services produced by public accounting firms (SPAP; SPM 1 dan SA 220). Based on the above explanation, it can be argued that professional commitment may be able to moderate the effect of the QCS elements of the public accounting firm on audit quality because the public accountant will be loyal to his profession by obeying the professional standards and codes of ethics. The hypothesis in this study that states professional commitment moderate effect of every element of QCS on audit quality, including:

H_8: Professional commitment moderates the effect of leadership responsibilities for quality on audit on audit quality;

H_9: Professional commitment moderates the effect of relevant ethical requirements on audit quality;

H_{10}: Professional commitment moderates the effect of acceptance and continuance of client relationships and certain engagements on audit quality;

H_{11}: Professional commitment moderates the effect of assignment of engagement team on audit quality;

H_{12}: Professional commitment moderates the effect of engagement performance on audit quality;

H_{13}: Professional commitment moderates the effect of monitoring on audit quality;

H_{14}: Professional commitment moderates the effect of documentation on audit quality.

METHODS OF RESEARCH

Samples. The sample were 84 staffs auditor who work in 20 public accounting firms domiciled in Jakarta City, especially Central Jakarta area.

Procedures. The data collection method is the convenience sampling technique because the researcher does not have a complete list of information on the total number of staffs auditor in the Central Jakarta public accounting firm and the researcher does not specify the criteria in staffs auditor that be sampled because all auditors are actors of activities directly related to the implementation of QCS and Quality Audit.

Measure and Research Instrument. The instruments used to measure the variables in this study are the instruments contained in the Quality Control Standard 1, AICPA Peer Review Program Questionnaire, and the instruments used in previous studies. Instruments of Leadership responsibilities for audit quality and Documentation are compiled by the Quality Control Standard 1 (SPM 1) which is also contained in the AICPA Peer Review Program Questionnaire. Instruments of Acceptance and continuance of client relationships and certain engagements, Assignment of engagement team, Engagement performance, and Monitoring are compiled by the Quality Control Standard 1 (SPM 1) and used by Fauji (2015) which is also contained in the AICPA Peer Review Program Questionnaire. Instruments of relevant ethical requirements is compiled by the Quality Control Standard 1 (SPM 1) and used by Rizka and Amri (2012) and Fauji (2015) which is also contained in the AICPA Peer Review Program Questionnaire. Instruments of professional commitment is developed and has been used by Halim (2013). Instruments of audit quality is compiled by Hapsari (2007) and Wardhani (2014).

The application used to analyze the data was the smartPLS. Each of them was measured using Likert scale from 1 (one) to 5 (five). 1= strongly disagree, 2= disagree, 3= neutral, 4= agree, 5= strongly agree.

RESULTS OF STUDY

Before test the hypothesis, the researchers first test on the instrument in this study. The questionnaire with 46 questions first tested the validity and reliability to test the feasibility of the questionnaire as a data collection tool.

Validity Test Results. Based on the result of convergence validity test known that the value of AVE and Communality of each construct is more than 0.5 and factor loading value for each indicator is more than 0.7. From the discriminant validity test results known that the overall value of cross loading for each indicator is above 0.7. An overview of the convergence validity test can be seen in Table 1, while an overview of the discriminant validity test can be seen in Table 3. With the fulfillment of convergence and discriminant validity test then all constructs and indicators in this study are considered valid.

Reliability Test Results. Based on the results of reliability test known that all the constructs used in this study has value of the reliability composite more than 0.7 so it can be concluded that the entire construct has satisfied the reliability test. The reliability test overview can be seen in Table 1.

Table 1 – Convergent Validity and Reliability Testing Result

	Indicator	Factor Loading	AVE	Communality	Composite Reliability
Leadership responsibilities for audit quality	LRA1	0,752	0,613	0,613	0,825
	LRA2	0,734			
	LRA3	0,856			
Relevant ethical requirements	RE1	0,875	0,683	0,683	0,914
	RE2	0,866			
	RE3	0,879			
	RE4	0,787			
	RE6	0,711			
Acceptance and continuance of client relationships and certain engagements	ACR1	0,744	0,664	0,664	0,908
	ACR2	0,858			
	ACR3	0,810			
	ACR4	0,879			
	ACR5	0,771			
Assignment of engagement team	AE2	0,797	0,697	0,697	0,901
	AE3	0,895			
	AE4	0,885			
	AE5	0,753			
Engagement performance	EP1	0,826	0,609	0,609	0,916
	EP3	0,806			
	EP6	0,738			
	EP7	0,788			
	EP9	0,750			
	EP10	0,785			
	EP11	0,766			

	Indicator	Factor Loading	AVE	Communality	Composite Reliability
Monitoring	M1	0,823	0,626	0,26	0,870
	M2	0,796			
	M3	0,740			
	M5	0,804			
Documentation	D1	0,873	0,741	0,741	0,896
	D2	0,874			
	D3	0,835			
Professional commitment	PC1	0,849	0,663	0,663	0,940
	PC6	0,723			
	PC7	0,818			
	PC8	0,752			
	PC9	0,882			
	PC10	0,872			
	PC11	0,846			
	PC15	0,753			
Audit quality	AQ3	0.868	0,736	0,736	0,951
	AQ4	0.878			
	AQ6	0.853			
	AQ7	0.889			
	AQ8	0.887			
	AQ10	0,815			
	AQ11	0,813			

Table 2 – Hypothesis Testing result

Hypothesis	Construct	Original Sample	T-Statistics	Result
H1	LRA -> AQ	0,257	1,786	Rejected
H2	RE -> AQ	0,486	3,020	**Accepted**
H3	ACR -> AQ	0,089	0,683	Rejected
H4	AE -> AQ	-0,110	0,466	Rejected
H5	EP -> AQ	0,098	0,384	Rejected
H6	M-> AQ	0,075	0,500	Rejected
H7	D -> AQ	0,119	0,827	Rejected
H8	LRA*PC -> AQ	-0,012	0,092	Rejected
H9	RE*PC -> AQ	-0,288	1,312	Rejected
H10	ACR*PC -> AQ	0,172	1,002	Rejected
H11	AE*PC -> AQ	0,031	0,138	Rejected
H12	EP*PC -> AQ	0,051	0,164	Rejected
H13	M*PC -> AQ	-0,032	0,154	Rejected
H14	D*PC -> AQ	0,162	0,837	Rejected

Table 3 – Discriminant Validity Testing Results

	LRA	RE	ACR	AE	EP	M	D	PC	AQ
LRA1	**0,752**	0,413	0,454	0,304	0,495	0,414	0,370	0,004	0,439
LRA2	**0,734**	0,343	0,498	0,336	0,478	0,411	0,414	0,039	0,430
LRA3	**0,855**	0,543	0,655	0,458	0,624	0,441	0,425	0,119	0,617
RE1	0,483	**0,875**	0,445	0,545	0,613	0,348	0,522	0,224	0,601
RE2	0,411	**0,866**	0,346	0,499	0,614	0,407	0,563	0,125	0,705
RE3	0,477	**0,879**	0,401	0,460	0,601	0,462	0,579	0,236	0,774
RE4	0,506	**0,788**	0,534	0,534	0,543	0,388	0,483	0,371	0,671
RE6	0,484	**0,711**	0,439	0,462	0,603	0,484	0,466	0,101	0,455
ACR1	0,496	0,406	**0,746**	0,533	0,595	0,469	0,472	0,210	0,437
ACR2	0,544	0,368	**0,858**	0,584	0,552	0,602	0,451	0,220	0,407
ACR3	0,652	0,476	**0,810**	0,527	0,549	0,535	0,457	0,200	0,571
ACR4	0,612	0,502	**0,879**	0,642	0,627	0,557	0,456	0,204	0,586
ACR5	0,484	0,283	**0,771**	0,602	0,571	0,548	0,411	0,221	0,333
AE2	0,378	0,424	0,504	**0,797**	0,592	0,448	0,282	0,073	0,351
AE3	0,396	0,539	0,667	**0,895**	0,753	0,657	0,472	0,246	0,515
AE4	0,382	0,578	0,568	**0,885**	0,733	0,682	0,566	0,349	0,514
AE5	0,467	0,440	0,619	**0,753**	0,736	0,706	0,465	0,209	0,361
EP1	0,538	0,625	0,482	0,679	**0,826**	0,686	0,619	0,145	0,543
EP3	0,432	0,548	0,547	0,805	**0,806**	0,629	0,488	0,293	0,524
EP6	0,423	0,632	0,550	0,712	**0,738**	0,453	0,478	0,302	0,544
EP7	0,537	0,570	0,479	0,573	**0,788**	0,544	0,404	0,068	0,481
EP9	0,712	0,498	0,633	0,528	**0,750**	0,524	0,414	0,222	0,569
EP10	0,572	0,522	0,609	0,653	**0,785**	0,672	0,605	0,123	0,529
EP11	0,533	0,496	0,566	0,658	**0,766**	0,690	0,516	0,157	0,468

	LRA	RE	ACR	AE	EP	M	D	PC	AQ
M1	0,500	0,472	0,580	0,589	0,683	**0,823**	0,564	0,096	0,491
M2	0,480	0,377	0,595	0,614	0,697	**0,796**	0,500	0,014	0,314
M3	0,239	0,268	0,435	0,625	0,447	**0,740**	0,315	0,092	0,255
M5	0,422	0,409	0,472	0,580	0,562	**0,804**	0,466	0,104	0,412
D1	0,428	0,478	0,461	0,431	0,522	0,600	**0,873**	0,065	0,487
D2	0,480	0,662	0,426	0,443	0,590	0,436	**0,874**	0,112	0,643
D3	0,409	0,467	0,558	0,546	0,549	0,546	**0,835**	0,171	0,494
PC1	0,042	0,076	0,226	0,234	0,160	0,101	0,136	**0,849**	0,154
PC6	0,042	0,027	0,056	0,049	0,057	0,033	0,007	**0,723**	0,136
PC7	0,055	0,193	0,203	0,148	0,151	0,069	0,008	**0,818**	0,239
PC8	0,097	0,063	0,124	0,081	0,037	0,046	0,069	**0,752**	0,007
PC9	0,013	0,253	0,237	0,277	0,194	0,105	0,202	**0,882**	0,269
PC10	0,121	0,315	0,287	0,312	0,321	0,154	0,205	**0,872**	0,275
PC11	0,090	0,355	0,215	0,321	0,328	0,180	0,159	**0,846**	0,280
PC15	0,057	0,167	0,209	0,196	0,142	0,064	0,034	**0,753**	0,201
AQ3	0,578	0,668	0,636	0,514	0,583	0,381	0,528	0,316	**0,869**
AQ4	0,571	0,729	0,486	0,442	0,584	0,420	0,552	0,219	**0,879**
AQ6	0,466	0,631	0,440	0,371	0,523	0,361	0,541	0,164	**0,853**
AQ7	0,565	0,745	0,552	0,554	0,635	0,449	0,530	0,280	**0,889**
AQ8	0,507	0,643	0,428	0,457	0,567	0,384	0,604	0,264	**0,885**
AQ10	0,609	0,680	0,574	0,428	0,524	0,465	0,518	0,244	**0,818**
AQ11	0,577	0,652	0,441	0,426	0,620	0,474	0,571	0,162	**0,812**

The final conclusion that can be obtained from the three tests that have been done is the constructs and indicators used in this study have been valid and reliable because have already qualified convergent validity, discriminant validity, and reliability.

Hypothesis testing. Hypothesis testing is done by comparing t-statistic value with t-table value. If t-statistic value > 1,96 then hypothesis accepted whereas if t-statistic value < 1,96 then hypothesis rejected. An overview of hypothesis testing results can be seen in Table 2.

DISCUSSION OF RESULTS

This study examines audit quality by using QCS elements contained in SA 220. The results showed that leadership responsibilities for quality on audit do not affect audit quality. The results of this study are not in line with the existing statement in Question and Answer (TJ) 03 by the Assistance and Implementation Professional Standards Committee (KAISP) IAPI in 2015. When the leaders of the public accounting firm lack of understanding of the QCS, the public accounting firm becomes pessimistic in implementing the QCS (Ismail *et al.*, 2008) so policies and procedures related to leadership responsibility for quality on audit that used as guidelines for public accounting firms in controlling the quality of their services will be less effective (Abidin, 2012). Furthermore, based on the results of the study known that relevant ethical requirements affect audit quality. The results of this study reinforce the results of previous studies that is Maulidiani & Witjaksono (2014) and Fauji (2015) which also states that independence in the relevant ethical requirements is an element in the QCS that affect audit quality.

The results also show that Acceptance and continuance of client relationships and certain engagements as policies and procedures that must be owned by every public accounting firm does not affect audit quality. The results of this study support the results of Fauji (2015) but also denied the results of Putri (2010). This study found that Assignment of engagement team as the policies and procedures that must be owned by every public accounting firm does not affect the audit quality. The results of this study are contrary to the results of Fauji (2015). Assignment of engagement team is not fully effective in managing public accounting firms in maintaining the quality of their audits because of difficulties for

public accounting firms to specialize personnel on a particular client industry (Abidin, 2012). In addition, this study also found that engagement does not affect audit quality. The results of this study do not support the results of previous studies conducted by Nasution (2008) and Fauji (2015).

Based on the results of this study known that Monitoring does not affect audit quality. The results of this study do not support previous studies conducted by Nasution (2008) and Ikbal (2008). Inspection is a part of monitoring (SPM 1 dan SA 220) that its implementation takes a lot of time (Ismail *et al*, 2008) and costly so the public accounting firm considers that inspection is a form of waste (Fauji, 2015). The study also found that Documentation as the policies and procedures that must be owned by every public accounting firm does not affect audit quality. No effect of documentation on audit quality because the creation of documentation requires judgment and depends on a number of factors, such as firm size and number of offices as well as the nature and complexity and organizations of the practice of public accounting firms (Question and Answer 03 by the Assistance and Implementation Professional Standards Committee IAPI, 2015), in addition Documentation is a new element of QCS regulated in SPM 1 and SA 220 which previously was not present in SPM section 100.

This study also tested the professional commitment in moderating the relationship between QCS elements contained in SA 220 with audit quality. The results show that professional commitment does not moderate the relationship between the seven elements in QCS that is leadership responsibilities for quality on audit, relevant ethical requirements, acceptance and continuance of client relationships and certain engagements, assignment of engagement team, engagement performance, monitoring, and documentation with audit quality. The results of this study do not support the studies of Jeffery *et al.* (1996); Lui *et al.* (2001) Gendron *et al.* (2006); Greenfield *et al.* (2008); and Azis (2016) which states that professional commitment as loyalty of a public accountant to maintain and run its professional institutions, as well as making public accountants regard the standards and codes of ethics as a key attribute of the profession and believe the standards and codes of ethics must be strictly binding and enforced within the domain of public accountants so that public accountants are more likely to comply with standards and public rules and public accountants will not engage in adverse activities for the organization.

CONCLUSION

Based on the test results it can be concluded that:

From seven elements of the QCS contained in SA 220 that is leadership responsibilities for quality on audit, relevant ethical requirements, acceptance and continuance of client relationships and certain engagements, assignment of engagement team, engagement performance, monitoring, and documentation, only Relevant ethical requirements affect audit quality.

Professional commitment cannot moderate the relationship between the seven elements of QCS consisting of is leadership responsibilities for quality on audit, relevant ethical requirements, acceptance and continuance of client relationships and certain engagements, assignment of engagement team, engagement performance, monitoring, and documentation on audit quality.

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MARKETING STRATEGY IN STARTUP BUSINESS OF HOUSEKEEPER PROVIDER

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ABSTRACT
Generally, housekeepers are poor rural women whose education is very limited to Primary School (SD) or even are not educated. There are a few of them who graduate from Junior High School (SMP), even graduate from Senior High School (SMA). The limitation in education makes the housekeepers carry out only routine work, especially in the household. The following analysis is conducted to find marketing strategy at startup business of housekeeper provider at PT. Citra Insan Terampil. The analysis of the research uses strategic management. The process of strategic management consists of three stages: strategy formulation, strategy implementation, and strategy evaluation. PT. Citra Insan Terampil is a professional certified, adaptable, and integrity housekeeper provider. To get a qualified housekeeper, PT. Citra Insan Terampil recruits the prospective housekeeper, trains the housekeeper, certifies to the housekeeper who has graduated from training, markets the housekeeper, distributes and conducts gradual evaluation in the after sales.

KEY WORDS
Strategy, marketing, business, housekeeper.

In Indonesia, during the colonial period of Dutch, housekeepers are called baboe (read as "babu"); the term is frequently used as a negative connotation term for this job. Housekeeper is considered as low / dishonorable jobs in the eyes of the people up to this day. Household keeper or domestic worker or household assistant or often called as housekeeper is a person who provides the services (especially physical services) to complete household works at the will of his / her employer and to receive wages based on mutual agreement. Generally, housekeepers are poor rural women whose education is very limited to Primary School (SD) or even are not educated. There are a few of them who graduate from Junior High School (SMP), even graduate from Senior High School (SMA). The limitation in education makes the housekeepers carry out only routine work, especially in the household.

In some countries, due to the high economic gap and the lack of job opportunities, an 'urban middle-class' family can employ "lifelong housekeeper". Some countries bringing in the housekeepers from abroad are countries in the Middle East, Hong Kong, Singapore, Malaysia, and Taiwan. The main sources of housekeepers include Philippines, Thailand, Indonesia, Sri Lanka, and Ethiopia, (Parreñas, 2000). Particularly, Taiwan brings in domestic workers from Vietnam and Mongolia. The current phenomenon of the day is the difficulty in finding a housekeeper who is willing to work in the origin country and also the one that matches with his / her employer (Anderson, 2007). It is because today's housekeepers prefer to work as Women Workers (TKW) who are sent abroad rather than working domestically because housekeepers who work as migrant workers are considered more dignified by the people than domestic housekeepers, Heyzer and Wee, 994). In addition, up to now, housekeepers working domestically are still considered as low / dishonorable jobs in the eyes of the people. It is not the people's mistake to consider that way, because the housekeepers are not equipped with knowledge and cognition and training by the intermediaries (brokers), foundation or Course and Training Agency (LKP) of housekeeper provider who will be referred to housekeeper provider. In addition to the assumption that Women Workers (TKW) is more dignified, Women Workers (TKW) also get more attention to their rights such as getting more leave and salary than domestic housekeepers. Actually, the salary earned by TKW does not feel great if it is spent in the country they work. However,

Rupiah currency rate is lower than the foreign currency, for example, Singapore has a ratio of SGD 1 = IDR 9.500 in which will make the salary received by the housekeeper feels great if they are changed into IDR.

The difficulty IN finding domestic housekeeper is not only caused by the things described above, it is also because of the game between the foundation or Course and Training Agency (LKP) of housekeeper provider with the employed housekeeper. The game happening there is that the housekeepers will be taught by the foundation or Course and Training Agency (LKP) of housekeeper provider to request to quit when the warranty period runs out. The administrative cost of taking a housekeeper from an intermediary (brokers) is between IDR 600.000 to IDR 1.000.000 and there is no guarantee of housekeeper replacement if they are not suitable or the housekeeper asks to quit because they are not comfortable or with other reasons such as children / parents who are sick, parents who are dead, etc. The initial salary of a housekeeper taken from an intermediary (brokers) ranges from IDR 1.000.000 to IDR 1.300.000.

Administrative costs of taking a housekeeper at the foundation or Course and Training Agency (LKP) of housekeeper provider ranges from IDR 2.500.000 to IDR 3.000.000 with a warranty period of 3 (three) months when there is no match between the housekeepers and the employers. The replacement of the housekeepers ranges from 1 (one) to 3 (three) replacements depending on the policy of each foundation or Course and Training Agency (LKP) of housekeeper provider that is adjusted to the administrative cost incurred by the prospective employer. The initial salary ranges from IDR 1.500.000 to IDR 1.800.000 depending on the experience of each housekeeper which will be received by the housekeeper. The specified minimum salary will earn a housekeeper with the quality of minimum 1 (one) year work experience. However, this cannot be accounted for because there is no certificate or work reference from the previous employer. Not only the prospective employers who are charged administrative fees, the housekeepers are also charged an administrative fee with the amount of ½ (half) - 1 (one) month salary where the employer must pay for it to the related foundation or Course and Training Agency (LKP).

Bad game between the housekeeper and the foundation or Course and Training Agency (LKP) is usually done by teaching and ordering the housekeeper to quit after the warranty period ends (Heyzer, Nijeholt, and Weerakoon, 1994). This quit request usually ranges between 4 (four) - 6 (six) months after work, for various reasons such as children / parents who are sick / dead, husbands who do not allow them because of the pets (usually dogs), etc. It is carried out for the reason of an employer who really needs a housekeeper will willingly reissue the administrative costs to take another housekeeper, (Moors, 2003). The administrative fee is an advantage for the foundation or Course and Training Agency (LKP) and the intermediaries (brokers) who deliver the housekeepers to the foundation or Course and Training Agency (LKP). The difficulty in finding domestic housekeeper is also because today's domestic housekeepers prefer the type of work to be done and do not want to tire. Today's domestic housekeepers tend to be together with their friends or villagers. Various reasons are expressed such as a fear for having never worked before, the house that is too big, too much work, and so on. Housekeepers who choose the type of work are not supported by the work performance and quality of the housekeeper itself, so there is a lot of unsuitable between the employers and the housekeepers so that employers find it difficult to look for appropriate housekeepers (Silvey, 2006).

The analysis of the research uses strategic management. According to David (2009), the strategic management process consists of three stages: strategy formulation, strategy implementation, and strategy evaluation. Strategy formulation includes developing vision and mission, identifying external opportunities and threats, determining internal strengths and weaknesses, establishing long-term goals, formulating strategic alternatives, and selecting specific strategies to be implemented (McLeod and Schell, 2004). Strategy implementation requires companies to set annual goals, create policies, motivate employees, and allocate resources so that strategies that have been formulated can be run. Strategy implementation includes developing cultures and supporting the strategies, creating effective organizational structures and directing marketing efforts, preparing budgets, developing and empowering

information systems, and linking employee performance to organizational performance (Thoyib, 2005).

RESULTS AND DISCUSSION

Analysis of Market Attractiveness. There are three dimensions affecting market appeal namely market forces, competitive intensity, and market access, (Gewirtz et al., 1995). The analysis of market attractiveness is useful to see how attractive market that will be the target of PT. Citra Insan Terampil.

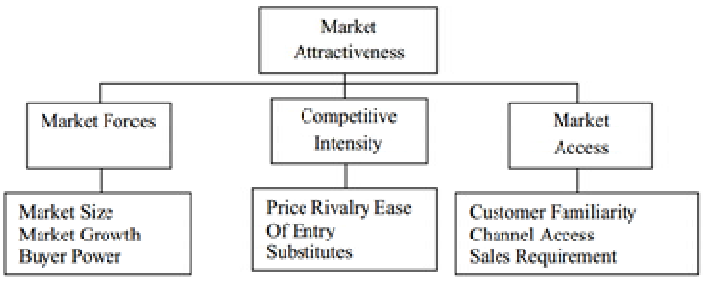

Figure 1 – Analysis of Market Attractiveness

There are three factors that influence market forces, namely market size, market growth, and buyer power, (Chen et al., 1986). The biggest weight of value in influencing market forces is market size and buyer power. Market size has a high weight based on demographic data of Panongan District; the area of Panongan District is 3,500.94 ha, with a population of 92,851 inhabitants. Meanwhile, the area of Citra Raya Housing is 2,760 ha. Currently, there are approximately 15,000 housing units (51 clusters) and 1,800 units of shop houses that have been occupied by the residents with approximately 60,000 inhabitants.

There is a market potential of 20 clusters (approximately 4,600 houses), of which the number of houses that do not want to have housekeepers is 10%, that already have the housekeepers is 50%, so that there are 40% (approximately 1,800 houses) that are incompatible with the employed housekeepers. From 1800 houses, 58.5% of them are couples age 24-35 years (1045 houses).

Buyer power is also high as it is viewed from the need for a housekeeper is so large in the market. It is because the housewives have to work outside the home. In addition to market size and buyer power, market growth factor is also very influential, the need for housekeeper in the market continues to increase because many newly married couples will need a housekeeper to do the household works and take care of the baby (Inderst and Mazzarotto, 2008). Market growth is also attributable to the growing sales of new homes. It can be seen from the construction of new clusters in Citra Raya housing.

Factors affecting competitive intensity are price rivalry, ease of entry, and substitutes. Price rivalry is not very influential, since admin fees and the nominal of housekeeper salaries are still affordable for the upper middle class, (Góis, 2005). Ease of entry has no significant effect because there is no housekeeper provider that produces high quality housekeeper. It is due to the low integrity of housekeeper in unprofessional housekeeper provider in conducting their business, so that the housekeepers may be asked to quit by their employers. Qualified housekeepers produced by PT. Citra Insan Terampil are housekeepers who get training that is in accordance with existing competence. The training requires considerable cost and capital, so the barrier to entry into the business is also high.

Substitutes have moderate significance, due to the replacement services such as go-maid, go-clean and daycare. Go-maid provides cleaning services of houses, apartments, office buildings and house stores. The primary services of Go-clean are offering housekeeping services that include sweeping, mopping, dust cleaning, bathroom cleaning and tidying up the room for various types of housing such as houses, apartments or boarding rooms. In addition, Go-clean provides a variety of additional services for your household and

business cleaning needs, such as washing dishes, cleaning cabinets, kitchen sets, stoves and refrigerators, and ironing and folding clothes. It has medium level of influence because Go-clean, Go-maid and daycare's workers do not stay in the customer's house so that the service is very limited in time. When the customers need the service, they too have to order again and pay for the cost again and it takes time to wait for the housekeeper to come.

Market access is influenced by three things, namely customer familiarity, channel access, and sales requirements, (Gelos et al., 2011). In customer familiarity, PT. Citra Insan Terampil knows the market's need for the quality of the housekeeper, even though the market has not known the quality of housekeeper produced by the company. The high quality of housekeeper produced by PT. Citra Insan Terampil will contribute to the market. Channel access for the service industry of housekeeper provider is also considered attractive, because the market demand for housekeepers is so high that the need for housekeeper candidates is also high. Sales requirement is also quite attractive, because the company has not being recognized by the public, so that the approach to sales to customers is needed. By the analysis conducted with the observations and surveys affecting the attractiveness of this market, it can be seen that the market forces have the greatest weight value compared to competitive intensity and market access. Therefore, the company can draw the conclusion that the most influencing factor of the attractiveness of market objectivity is market forces.

Analysis of Competitive Advantage. In addition to knowing the market attractiveness, knowledge is also required in the competition between the competitors in service industry of housekeeper provider in term of competitive advantage. Therefore, it is needed to measure the suitability between the benefits of the company with the existing market segment. PT. Citra Insan Terampil is a company in the stage of new entry, so the real competitive advantage cannot be proven. Therefore, this measurement will lead more to the potential competitive advantage of the company. Three dimensions affecting the company's competitive advantage are differentiation advantage, cost advantage, and marketing advantage, (Noe et al., 2003). The following is the analysis of the three dimensions affecting the competitive advantage in the service industry of housekeeper provider.

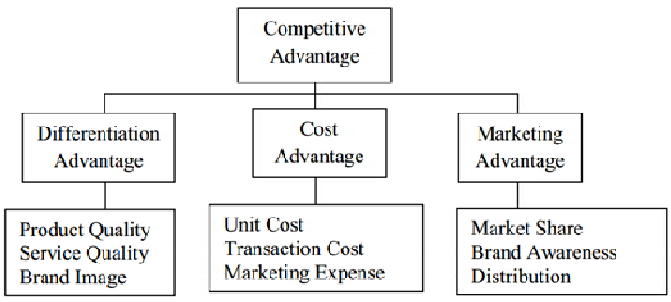

Figure 2 – Analysis of Competitive Advantage

Service quality is demonstrated by the work and integrity of the housekeepers and the company's service to customer complaints, (Kang and James, 2004). To maintain the integrity and quality of the housekeepers, the company will conduct a preliminary survey to the customer / prospective employer. It is conducted so that the housekeepers can work optimally with the ability that is in accordance with the customer criteria. In addition, the company also provides services by inspecting the work of housekeepers with customers by performing sudden inspections once every two weeks in the first, second and third months, once every two months in the fourth to the twelfth month. At the time of the inspection, the survey team will inquire about the quality of housekeeper whether it is in accordance to the customer criteria or not. Customers get an additional free trial for a month if the housekeeper is considered not to meet the criteria, in which the company subsequently replaces the housekeeper in accordance with customer criteria. In order to increase customer satisfaction, the warranty period will start from the replacement of the housekeeper. In term of brand image, the company is still a new business actor, so there are not many customers know the quality of housekeeper produced by the company. By the customer satisfactory service, the

satisfied customers may inform their colleagues or family about the quality of housekeeper produced by the company.

The unit cost factor makes the price offered by the company to be higher, so it does not have an effect because there is no service industry of housekeeper provider that produces the same housekeeper product. This is due to 1) the cost of housekeeper training; 2) the cost of daily living during the training period; 3) the cost of the survey to the customer's house in which is conducted for once every two weeks in the first, second and third months, once every two months in the fourth to the twelfth month (Barney, 2014). There is a transaction cost that slightly affects the sale price of a housekeeper. The transaction cost consists of delivery costs of the housekeeper to the customer's home and the cost of preliminary survey. Marketing expense is an important factor because PT. Citra Insan Terampil has not being recognized by the public, so companies must carry out the housekeeper marketing. Marketing conducted in the early stages is 1) providing samples of housekeeper to the prospective customers for one week. It is conducted to introduce a relatively new product to the prospective customer; 2) building a network by organizing social gathering, recitation and mothers who are waiting for their children to come home from school, in kindergarten or elementary school. This activity is conducted by the aim of prospective customers will be easier to approach because they have already known the mothers in the group; 3) marketing is conducted by holding seminars for free once a month for one year; 4) providing an additional month's warranty period if the housekeeper is considered as unqualified; 5) conducting the marketing through the internet which is one of the media to introduce themselves and the housekeeper products. The virtual world is easier to access so it is more visible to many people or prospective customers; 6) conducting the marketing by distributing brochures to kid’s playground and kid’s hospital especially in Mother and Child Hospital (RSIA).

In term of Marketing Advantage, PT. Citra Insan Terampil still has a very small level of advantage. The factors affecting Marketing Advantage, namely Market Share, Brand Awareness, and Distribution, the three are still not able to outperform and compete with the previous competitors who have been conducting their business in the housekeeper service provider. So far, the market perception of the housekeeper is merely a helper who does not require a certificate. The market has not yet understands that by having a certificate, it will be easier for the housekeepers to do their work without having to be trained by the customers and it will be easier for the customers because they do not have to train them again. In its distribution, there are constraints in obtaining housekeeper from PT. Citra Insan Terampil; it is stock out. It is because the housekeeper candidates are difficult to obtain because of limited resources, the housekeepers are all taken, the limited space in which there are not enough housekeepers to be accommodated, the rigorous screening of housekeeper candidates, and the length of housekeeper training process so that housekeeper candidates cannot enter due to the limited space.

Core offensive strategy that will be used is improve-position, in which conducting intensive marketing to increase or strengthen the company position in the service market of housekeeper provider. One of the efforts that will be conducted by marketing is to do digital marketing and chatbot. One effort made by the sales force is to build relationships or networks by organizing social gathering, recitation and creating a virtual group using the WhatsApp or Blackberry Messenger application whose members are prospective employers. This virtual group is useful for providing information on housekeeper; training information provided by the company to improve the quality of the available housekeeper, customer reviews derived from customer responses to questions about the satisfaction with the quality of the housekeepers. Customer review is obtained through customer satisfaction survey conducted by email, phone, and application. Customer satisfaction survey by phone / email will be conducted regularly once a month for one year.

Six Market Models. Payne et al. (1998) suggest six market models that explain how to foster the marketing relationship with others.

Suppliers markets of PT. Citra Insan Terampil are the village headman, community leader, housekeeper providers, IT experts, permanent teachers, non-permanent teachers

and sales staffs. The alliance market is a housekeeper distributor that uses the training services of PT. Citra Insan Terampil. The alliance market will be implemented in the strategy of the second stage.

The recruitment market is a market that produces housekeeper with integrity, honesty, empathy and skill. Reliable teachers will be hired to train the housekeeper candidates to produce certified housekeeper professionals.

Sales force is a strong revenue motivator and the most important asset in the company because the sales keep the relationship between customers and the company and determine the success of a company. Sales force structure of PT. Citra Insan Terampil currently consists of three sales people, namely marketing & sales head, marketing staff, sales staff and part-time marketers. The existing sales people must be effective in setting the time and continuously develop the skills and abilities, so that they can produce qualified sales activities. Sales people must have up-to-date skills and abilities, the right attitude, the knowledge of the product, the customers and the competitors. In the sales force there are sales effectiveness drivers that keep the sales people to work effectively. There are five sales effectiveness drivers: definers, shapers, enlighteners, exciters and controllers.

Customer markets include primary customers and secondary customers. Primary customer is a family that belongs to family category with middle and upper class economy, while secondary customer is the housekeeper. PT. Citra Insan Terampil has the following marketing framework:

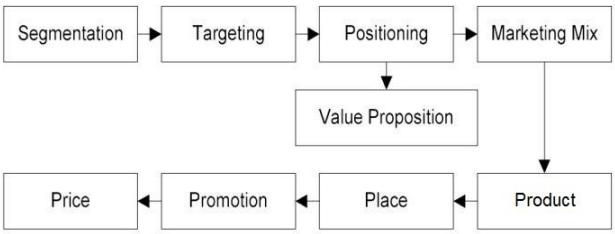

Figure 3 – Marketing Framework

Market segmentation is an attempt to segregate markets in heterogeneous purchasing groups in terms of interests, purchasing power, geography, purchasing behavior and lifestyle. There are three kinds of market segment divisions: consumer market segmentation, business market segmentation, and effective market segmentation. PT. Citra Insan Terampil will choose business market segmentation. Segmentation geographically sees the need for housekeepers nationwide. However, based on the level of need, Java has the highest level of housekeeper needs compared to other regions so it is a good market for service industries of housekeeper provider. Segmentation demographically divides the customer by the level of income and age. Based on the income level, the target is customer whose family income above seven million. The age targets are those mothers or women who just became a mother with age 24-35 years.

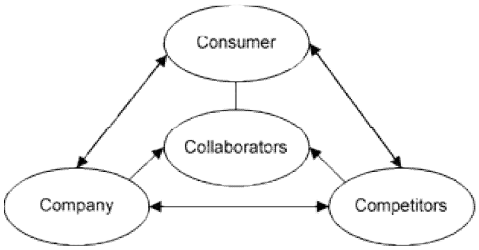

Figure 4 – 4Cs Framework

Targeting is the process of selecting products, both goods and services or the best service so that it really is in the best position to achieve success. Once a company has identified market segment opportunities, then it evaluates the various segments to decide

which segment is the target market. In evaluating different market segments, a company should look at two factors: the overall market attractiveness and company goals and resources. The 4C framework (The 4Cs framework) is used effectively in decision making. This framework is a tool for developing thought, helping to create a systematic and flexible tool for identifying specific problems, assessing the competition, and formulating the consequences of the solution.

Based on the Case Interview Guide results, it can be concluded that housekeepers is needed because it can run the wheels of the household well. There is a preliminary survey before a housekeeper is placed in order to create a moral attachment between the customers and the housekeeper, and to ensure that the housekeeper is suitable and the customer is satisfied by giving free of charge of housekeeper service for a week. After determining the marketing target, the company must then determine the positioning of products that is going to be marketed. Positioning is a way to try to instill a product image in the minds of customers with unique characteristics that customers can differentiate from other products. Positioning determines the existence of brands, products and companies in the minds of customers. There are two important things of the brand: the brand is the identity and the control of the market. Brand is a sign in the forms of image, name, word, letters, numbers, and arrangement of colors or combinations of these elements. It is used as a basis for differentiation in goods and services trading activities.

In conducting promotional strategies, the most important decision for a company is to determine the right mix of promotions that can generate effective sales. Some ways that a company can have for promotion are: direct marketing, public relations and advertising. Direct marketing is direct communication to the target consumer by using telephone, mail, fax, email and other communication tools to communicate the product / service directly. Direct marketing can use mail, email, facsimile, telephone, and other non-personal interfaces. Organizing social gathering, recitation and gathering of mothers who are waiting for their children to come home from school at kindergarten or elementary school, are called as direct marketing as well.

The advantage of direct marketing for a company is that the company can specialize based on the target group, in which the target group is a prospective mother or housewife who is in the upper middle social class. A company can make offers and strategies that cannot be seen by the competitors and get direct response from the customers in order to produce better housekeepers.

The important thing of print ads - aimed at the customers - is to give information and description about the impression obtained when using housekeeper from PT. Citra Insan Terampil. In following figure, it can be seen the use of rational appeal and emotional appeal; rational appeal is shown by the information on the housekeeper in terms of quality to the level of intelligence. Emotional appeal is shown by a picture of smiling family members when they are entering the house.

Figure 5 – Print Ads Example

Advertising using print ads is planned in online magazines and tabloids (digital ads) that are commonly read by housewives both career and non-career women in which will determine the decision in finding housekeeper provider to get the right housekeeper. The magazines and tabloids are Nakita, Ayahbunda, Mother and Baby Indonesia. The selection of magazines and online tabloid is based on the readers who are career housewives aged 24 years – 35 years. Magazine print ads will be done by a reputable and high experience agency and the cost is in accordance with PT. Citra Insan Terampil. The process of print ads will always be monitored and based on the terms of reference provided by PT. Citra Insan Terampil. Marketing through advertising will also be done using brochures that will be distributed to Mother and Child Hospital (RSIA), kindergarten, and kid's playground. The form of brochure content will be likened to the print ads.

PT. Citra Insan Terampil has a website (www.citrainsanterampil.com) which contains information on housekeeper level, company service facility, tracking, training schedule, preparation schedule of ready-to-work housekeepers and company activity report and customer satisfaction survey. This medium is chosen because it can provide complete information to customers and can form the image of the company that has qualified housekeepers and supply certainty, (Armstrong et al., 2015). This electronic media can also expand the scope of the company. This website is expected to obtain sales leads and inquiries. Promotions will also be conducted in digital marketing using SEO (Search Engine Optimization), SEM (Search Engine Marketing), SMM (Social Media Marketing), SMO (Social Media Optimization), (Chandler and Munday, 2016).

SEO (Search Engine Optimization) is a process for influencing the visibility level of a website or a web page in natural search results (often referred to as non-paid search, non-advertisement search, or organic search) from a search engine, (Shih et al., 2013). SEO is good for long term investment because it is free so it can save company budget.

The website creator will provide a report of the results of the optimization that is conducted based on the keywords that have been entered into the company's website page. If the report is considered less than optimal due to the company's website is not on the first page of the site search, then the marketing staff will re-search popular keywords using the tools.

SEM (Search Engine Marketing) is one way of promoting a website by improving its position on search engine results (SERP) mainly through paid ads. SEM is better known as a paid promotion method to increase the visibility of your website on search engines like Google, Bing, Yahoo and others (Sen, 2005). But since the majority of users only use Google to search for something, SEM is often interpreted as AdWords. Some advertising methods that are part of SEM are paid search ads and CPC / CPM advertising. Generally, SEM is also combined with SEO to provide better results on search results.

Figure 6 – Process of SEM

Ad account creator creates an online payment account then enters the funds. The company allocates a certain amount of funds per month. Then, ad account creator creates small text ad and search for keywords that are popular. Then ad account creator determines the amount of price that the company should pay when the user clicks a small text ad (PPC system = Pay Per Click), (Zuili, 2007). When a user uses the Google site search engine by entering the word "helper" and clicking the search button, the search results will appear on the first page.

In addition, the company also uses SMO (Social Media Optimization) to improve the visibility of social media profiles of the company, social networking activities of the company and published content so that it will be easily found by the customers who are looking for information related to company content. SMO helps drive the traffic to a website or blog, making it easier for other customers to share with their customers' circles, building communities around company brands and helping the search engines to index social media profiles, social activities and making it easier for blog posting (Peng and Sun, 2012).

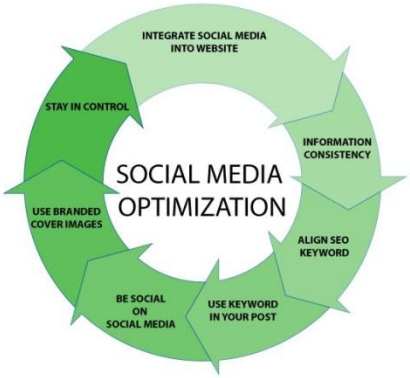

Figure 7 – Process of SMO

SMM (Social Media Marketing) is a marketing technique that uses social media as a means to promote a product (link page of an online business website) or a service, or other product more specifically. SMM is oriented to the development and utilization of social media areas as a means or place to build the target market of the company's online business. The company chooses SMM as it is popular among the people, namely Facebook, Twitter and Instagram, (Zarrella, 2009).

Figure 8 – Process of SMM

Chatterbot / chatbot is a computer program designed to stimulate intellectual conversation of one or more humans in both audio and text, (Shawar and Atwell, 2007). The purpose of chatbot is to provide online assistance, personal service, or information

acquisition. In this case, it is to see the function of the program as a type of conversational agent.

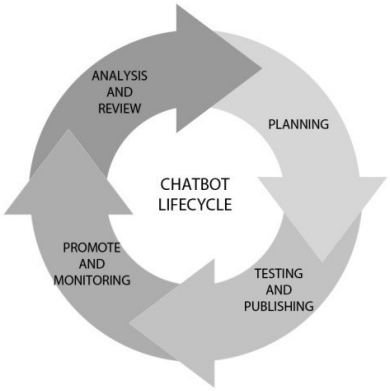

Figure 9 – Process of Chatbot

There are two categories of referral market sources, namely customer and non-customer sources. In the customer source, consciously or not, the satisfied customers will do marketing for housekeeper of PT. Citra Insan Terampil (positive word of mouth (WOM)). Non-customer source is a satisfied housekeeper distributor to the training obtained from PT. Citra Insan Terampil. Non-customer sources will be obtained in the second stage of marketing strategy.

Influence markets that play a role in the sustainability of PT. Citra Insan Terampil is the village headman, community leaders and agents. Agents play a role in supplying housekeeper candidates to the company. Good relations with the agents should be maintained so that the supply of housekeeper candidates will be continuous. Community leaders and village headmen play a role for the company because if community leaders and village headmen do not approve the company's business, they can influence the community to reject the existence of the company (Ismail 1999). This rejection can be in the form of a demo that will scare the prospective customers to come to the company.

Internal markets are the entire staff of PT. Skilled Insan Terampil and the housekeepers. Employee commitment to the company will make the company grow rapidly and run well, (Rugman, 2006). Employee commitment is performed by having internal marketing, especially for the sales staffs and the housekeepers in order to create customer satisfaction. Human Resources and the operations should have programs to improve the skills, expertise and value of all staffs and the housekeepers.

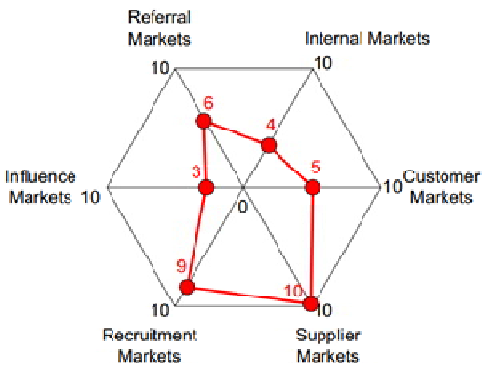

Figure 10 – Digital Analytics Maturity

Net Marketing Contribution (NMC). Net marketing contribution is obtained from the net sales minus the cost of good sold (COGS) minus the marketing expense. This value is a reference in monitoring market performance and profit. This calculation involves the total

marketing costs incurred for Integrated Marketing Communication, bonuses that need to be spent and others. The following is the total cost of marketing activities:

Table 1 – Marketing Costs

Cost Description	1st Year	2nd Year	3rd Year
Front banner in Nakita + online for 2 days	11,800,000	11,800,000	11,800,000
Digital ads on Facebook for 1 month	11,000,000	11,000,000	11,000,000
Digital ads on Mother and Baby Indonesia for 1 month	18,000,000	18,000,000	18,000,000
PPC	20,000,000	-	-
Seminar every month in the entire year	12,000,000	12,000,000	12,000,000
Logo of Patent Rights	2,000,000	-	-
Stamp	200,000	-	-
Logo Design	500,000	-	-
Print Ads	5,000,000	5,000,000	5,000,000
Brochures	1,700,000	1,700,000	1,700,000
Web Design	10,000,000	-	-
Internal Program	20,000,000	-	-
Web and Internal Maintenance	-	1,000,000	1,000,000
Domain/year	250,000	250,000	250,000
Hosting/year	2,000,000	2,000,000	2,000,000
Internet installment/year	3,600,000	3,600,000	3,600,000
Total of marketing Cost	118,050,000	66,350,000	66,350,000

Based on the cost of marketing activities, the calculation of net marketing contribution of PT. Skilled Insan Terampil is as follows:

Table 2 – Net Marketing Contribution

Year	Net Sales	COGS	Marketing Expense	NMC
I	757,696,000	682,304,000	118,050,000	22,658,000
II	1,015,350,600	770,609,400	66,350,000	178,391,200
III	1,322,767,160	879,916,840	66,350,000	376,500,320

CONCLUSION

PT. Citra Insan Terampil is a professional, certified, adaptable, and integrity housekeeper service provider. To get qualified housekeepers, PT. Citra Insan Terampil recruits the prospective housekeepers, trains housekeepers, certifies to the housekeepers who have graduated from training, markets the housekeepers, distributes and conducts gradual evaluation after sales. This business is very interesting because to run this business, PT. Citra Insan Terampil requires an initial capital of IDR 300,000,000 in which all capital is obtained from its founder. This business reaches the payback period within 11 months with the level of ROI (Return of Investment) of 53% which is much larger than the current market interest rate; 6-7% / year. This business also has a low risk level, because it has been tested with sensitivity analysis; if there is a decrease of sales by 10% / year or increment of commission and recruitment cost by 30%, discount factor of 10% still generate positive profit. The dividend distribution is performed annually at 20-30% depending on the profits earned by the company.

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METHODS FOR EVALUATING THE EFFICIENCY OF YOUTH POLICY ACTIVITIES

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ABSTRACT
Within the framework of main areas of youth policy implementation the conditions necessary for the successful socialization of young people are created. In this regard, the macro-level indicator for youth activities is the area of the youth policy where it is implemented. Linking to the specific areas of youth policy implementation allows for the creation of a system of activities that would enable operation of the areas that are most relevant to the field in which youth policy activities are implemented, as well as consideration the criteria and indicators developed to date in order to assess the efficiency of youth policy. Thus, the proposed material is based on the activities held by student associations involved in the competitive selection of the development programs of the Ministry of Education and Science of the Russian Federation. The article outlines the methods for evaluating the efficiency of youth policy activities and proposes measures to improve the performance of institutions of higher education that are falling behind in this area.

KEY WORDS
Student associations, youth policy, institutions of higher education, student association development programs, information coverage, performance evaluation procedure.

Methods for evaluating the efficiency of youth policy activities have not been well-established today and do not have common universally-accepted standards, rules and traditions yet. A systematic approach to the evaluation of youth policy activities involves the reliance on a system of criteria for the efficiency of youth policy as a whole. The difficulty is that the system of criteria and indicators for the efficiency of youth policy has not been developed yet. The matter of youth policy efficiency remains a problem and a debating issue.

In general, youth policy efficiency can be considered in relation to its targets and its specific areas. However, this approach appears to be somewhat simplistic, excluding the resulting and resource elements of the general concept of youth policy efficiency. The structure of the general concept of the youth policy efficiency can be defined as the relation between the objective, the result and the means by which the goal of specific youth policies is achieved. Effectiveness is an important criterion for evaluating any social project, including youth policy. In the case of youth policy, effectiveness implies the changes in relation to young people to which the given system of measures will lead (mainly of a program-target nature) in the process of implementation of this policy.

It should be noted that the effectiveness of youth policy at the design stage is most closely related to the feasibility of the project itself (in this case, of the program areas being developed). Feasibility is defined through a preliminary analysis of the conformity to the intended internal and external conditions in which the programs will be implemented. The effectiveness of youth policy can be defined as a system of specific measurable, qualitative and/or quantitative indicators that are the product of a target-oriented and consistent implementation of a given system of activities for the development of a model for assessing the youth policy efficiency.

On the base of youth policy effectiveness its efficiency is defined. Youth policy efficiency in its turn is a comprehensive indicator of the interaction effectiveness among youth policy actors [in the sociological sense] in the implementation process of this policy, showing the relation between specific outcomes and resource costs (social and economic efficiency), which establishes the correspondence between results and the problem field at which main effort has been directed at the conceptual and implementation stages of the

youth policy activities. Accordingly, it is possible to speak of youth policy efficiency as such when the latter is determined by the ability of its areas to conform to the real problems of young people and to speak of the implementation efficiency of the youth policy that manifests itself in the availability of the necessary resources (organizational, human, communication, financial, etc.) of the entity, the legal mechanisms for its implementation, and the activity and effort of young people themselves.

Youth policy can be considered efficient if the positive, desirable effect exceeds negative effect and side results. Moreover, the principle of efficiency must relate to a system of values and ethical standards. Efficient youth policy is also impossible without full awareness of young people of the measures taken to implement it. In this regard, it would be appropriate to address the conditions that ensure the efficiency of youth policy. The latter may be classified as: the adequacy of the chosen model of youth policy to social realia (quality characteristics of the main mechanisms for implementing youth policy meeting the real conditions at different levels); providing with a solid social basis for youth policy; sustainability of the social basis; socially-oriented interests of youth policy subjects; correspondence of the organization structures of youth policy to the tasks to be performed; the interaction of youth policy structures with all the parties concerned; the effectiveness of the interaction between different branches and levels of youth policy among themselves; the professionalism of the management personnel of youth policy; taking into account the specific nature of the implementation of youth policy at different levels (federal, regional, local); ideological and theoretical-methodological support for youth policy; the system for evaluating the youth policy efficiency; social monitoring in the area of youth policy using an indicator system to monitor the dynamics of youth policy phenomena and processes.

Issues related to the system for evaluating the efficiency of youth policy should be given special attention, more precisely with its theoretical and practical embodiment within a given model.

An analysis of sources including program projects, concepts and scientific articles on youth policy in the Russian Federation, revealed the following important circumstance: the actual absence of a functional model for evaluating the efficiency of youth policy and, in general, the declarative nature of measures to develop and implement particular actions to deal with the situation.

This complicates and hinders the development of constructive processes in the area of youth policy, thereby further exacerbating the situation.

The model for evaluating youth policy efficiency is presented as parameters expressed through specific indicators that provide information about the extent to which obtained results correspond to those initially laid within the framework of the social project.

The basis necessary for the development of the model for evaluating youth policy efficiency is a clearly defined system of criteria, which predefines a characteristic space for evaluation parameters classification.

In discussing the criteria for the youth policy efficiency, the following important circumstance, most often mentioned in various studies, should be noted. Often, in evaluating youth policy efficiency, consideration is given mainly to socio-economic criteria. In the current phase, insufficient attention has been paid to socio-political, ethnical and social, organizational and ideological criteria.

It is equally productive to propose a different set of criteria for the main areas of society life that have been proposed within the framework of the juventology concept in the context of the analysis of young people's socialization. Within the framework of this concept the economic, political, meso-social and ethnical-cultural spheres are the main areas of the society.

The problem of developing the criteria for evaluating the youth policy efficiency can be addressed in the overall context of setting targets and the appropriate youth policy areas to address and overcome negative trends in the youth environment caused by a set of problems.

Thus, the following scheme can be proposed: the problematic field in a youth environment is establishing goals and objectives for youth policy, identifying its areas, developing a system of efficiency criteria for each of the areas.

The ranking of the evaluation criteria developed is possible through the identification of priority areas for youth policy.

There is also a problem in the operationalization of the selected criteria, the identification of their specific parameters, for which a system of indicators is subsequently developed, which is essential for measuring the effectiveness of youth policy. In our view, the indicators should: relate to a certain level of implementation of the youth policy (federal, regional, local); reflect links both vertically - between the indicators of different levels and horizontally - between the indicators of the same level.

The indicators for evaluating the youth policy efficiency are to be considered as the qualitative and quantitative characteristics developed in the system of social relationships of the youth with political and social actors.

The system of indicators should meet the following requirements:

1. The set and form of indicators should be limited and permanent for a specified period of time.

2. Indicators should, to the extent possible, reflect youth policy phenomena, which are well-studied scientifically and tested in practice; at the same time, in transition from one socio-economic form to another, it is possible to use indicators of a searchable, innovative nature.

3. Periodic adjustments to the set of indicators used should be made.

In the light of the above mentioned points, one of the most important tasks that researchers (both practitioners and theoreticians) in the area of youth policy face today is to develop an effective system of indicators within a given model for youth policy efficiency.

Thus, the model for evaluating youth policy efficiency includes the following key aspects for its development: a system of criteria and their respective evaluation parameters;the development of qualitative and quantitative indicators for each of the parameters.

The discussion of issues in the context of addressing the problematic aspects of the youth policy efficiency, its evaluation at different levels of development and the implementation of the latter cannot be exhaustive without an analysis of the internal arrangement of youth policy. In this case, we are talking about the "mechanism" aspects of its development and implementation. Their analysis will identify the possible reasons for the actual absence of functional models for the youth policy and the evaluation of its efficiency, develop the specific mechanisms whose malfunction has led to such a situation.

The task of the state youth policy is to integrate the separate programs and projects that are designed for young people into a single whole. They should be integrated by the basic goals and priorities of state youth policies, which must be implemented at all levels of implementation.

The selection of priority areas of state youth policy as the basic ones for educational organizations should be based on the main objective of youth policy: the formation of socially active citizens. The students should not be regarded primarily as the object of education and socialization. They should be the direct participants in the solution of national problems.

Accordingly, the strategic priority of the state youth policy is to create the conditions for the formation of the personality which would be harmonious, permanently improving, knowledgeable, competitive, caring, with a strong moral and ethical core, capable of adapting to changing circumstances and receptive to new creative ideas. Therefore, in the challenging task of developing a multi-layered system for evaluating the efficiency of youth policy activities, where activity efficiency indicators should correlate with the indicators of higher levels (e.g. subprograms or programs in which it is implemented), the mega-level indicator is a specific condition for the formation of such a personality, which is ultimately facilitated by this or that particular activity.

Conclusion. The use of too many indicators in assessing the efficiency of the activities appears to be hardly effective because of the difficulty of obtaining information, especially in

the case of different types of activities. Three sets of indicators should be used to assess the efficiency of youth policy activities: statistical data, direct and indirect indicators system, sociological measurements results. Statistic data on students are necessary for the calculation of target indicators, the direct indicators describe the quantitative parameters of the activities implemented, whereas qualitative parameters can only be evaluated by means of indirect indicators. Thus, on the basis of sociological measurements data, the effectiveness of the activities and the quality of their implementation can be judged upon.

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ANALYSIS OF SOCIAL NORM IN PERSONAL TAXPAYERS' COMPLIANCE

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ABSTRACT
Present research aims to prove: the effect of social norm on compliance; the effect of the taxpayers' awareness on compliance; the effect of social norm on private norm; the effect of private norm on tax compliance; the effect of private norm on the tax justice system; the effect of the perception of the tax justice system on government trusts; the effect of government trust on compliance; the dominant variable affecting taxpayers compliance registered in South Jakarta. In this research, to analyze and to know the significant level and interrelationship between variables, analysis method of Structural Equation Model (SEM) is used. With this method it can be seen the effects and the relationships between exogenous and endogenous variables associated to researched problems. In this study 280 respondents were obtained by visiting taxpayers, taxpayer consultation to tax office and through socialization as well as tax counseling, with data used in the analysis of 250 respondents with dissemination covering gender, age, status, education level, and income. From the result of H1-H6 research, there is no effect because the result of analyst does not support hypothesis. However, H7 shows the results of the analysis support the hypothesis that the perception of justice can be especially important in tax compliance.

KEY WORDS
Social norm, taxpayer compliance, private norm, justice.

Tax is one of the sources of state revenue that gives the most significant role in the State Budget (APBN). The increasingly decisive role of taxation in state administration needs the active participation of taxpayers, stakeholders, and all Indonesians. So far, the tax target set in the State Budget always uses macro assumptions. Macroeconomic indicators such as the rate of economic growth and inflation play an important role in generating tax targeting formula. Supposedly, the tax target is calculated from a micro approach such as the number of registered taxpayers, the number of taxpayers, and taxpayer compliance. This formula will result in a routine tax base. Furthermore, added potential taxes will be the basis of additional new taxes, such as the potential sector and disbursement of tax receivables.

The combination between the previous year's routine tax base and the potential tax will be a more appropriate tax target in 2017 by not raising tax targets as in previous years. The assumption is that the state budget posture should be credible and begun with setting targets close to the actual conditions, when the tax base is fixed in 2017, then the next year the tax will move more aggressively and measurably. In State Budget use, the government closes the year of 2016 with a relatively safe budget deficit condition, the achievement of tax realization itself also affects the condition.

To achieve the tax target, continuous awareness and compliance of the taxpayer community must be grown in order to meet the tax obligation in accordance with the prevailing regulations. Considering taxpayers' awareness and compliance are important factors for increasing tax revenues, it is necessary to intensively examine the factors affecting taxpayer compliance, particularly personal taxpayer compliance.

The research done by Cialdini and Trost (1988) finds that social norm as rules and standards understood by group members and guide or limit social behavior without being compelled by law. The four categories of effects are included in this definition: general society behavior (the injunctive norm), the expectations of others who are valued for their own behavior (subjective norm), self-expectation for appropriate behavior or ethical beliefs (private norm), standards evolving from observation the behavior of others (descriptive

norm). Therefore, the definition of social norm includes not only external social influences, but also personal (or ethical) moral beliefs in individuals. Cialdini and Trost (1998) states that in general social norm have an effect on taxpayer tax compliance behavior. Private norm and subjective norm have a direct effect on taxpayer tax compliance, while injunctive norm and descriptive norm have an indirect effect on taxpayer compliance.

The conclusion is that social norm has an effect on taxpayer tax compliance. In addition to social norm, other factors that may affect the taxpayers in fulfilling their tax obligations or tax compliance is the awareness of the taxpayers, given the awareness and compliance of taxpayers is an important factor for increasing tax revenues, it is necessary to be intensively reviewed about the factors that affect the compliance of taxpayers, especially personal taxpayers.

These studies examine further from the initial research conducted in the study of the science of financial behavior. Cowell (1990), Porcano and Price (1993), Alm *et al.* (1999), Davis *et al.* (2003) on behavior in tax compliance. Furthermore, these studies examine the effect of compliance and social factors by Bobek and Hatfield (2003) and Torgler (2007). To enrich a deeper literature review of the effects regarding to social norm, it also shows that private norm is important because affecting ethical beliefs directly means that affecting compliance behavior**.** This research undertakes the development of research conducted by (Wenzel, 2004; and Bobek *et al.,* 2007).

Based on the above research problems, this study is conducted to prove: 1) the effect of social norm on compliance; 2) the effect of the taxpayers' awareness on compliance; 3) the effect of social norm on private norm; 4) the effect of private norm on tax compliance; 5) the effect of private norm on the tax justice system; 6) the effect of the perception of the tax justice system on government trust; 7) the effect of government trust on compliance; as well as to prove the dominant variable affecting taxpayer compliance registered in South Jakarta.

Social Norm and Taxpayer Compliance. Social norm can encourage compliance towards the Tax Law by helping individuals to obey the rules, therefore if the individual feels that the other taxpayer does not have an intention to comply with taxes, then the individual does not have moral and tends to avoid taxes (Torgler, 2003). Descriptive norm explicates the behavior of others in providing information about successful behaviors for others (Cialdini and Trost, 1998), therefore descriptive norm helps individuals determine the success of compliance because descriptive norm provides valuable information to individuals to guide behavior. The compliance of social norm is the result of the individuals' willingness to obey the group (Deutsch and Gerard, 1955; Cialdini *et al*., 1991; Nail *et al*., 2000). The injunctive norm explains what is socially acceptable in groups and individuals will obey the norms in the search for social agreements. Injunctive norm should affect behavior in situations that include tax compliance. The research conducted by Bobek *et al*. (2007) examines the effect of norm of having tax compliance behavior and finding that injunctive norm helps predict compliance.

The logic of the above thinking is in line with the research done by Bobek *et al.* (2007) which resulted in the conclusion that the variable of social norm can be used as an indicator for tax compliance. Therefore, our hypothesis is as follows:

H_1: Social norm will increase taxpayer compliance.

Taxpayer Awareness and Taxpayer Compliance. Lerche (1980) argues that taxation awareness frequently becomes a constraint in the problem of collecting taxes from the public. The above-mentioned logic conforms to Sanders' (2008) and Palil *et al*. (2013) which resulted in a conclusion that the higher the awareness of taxpayers, the higher the level of taxpayer compliance. Hence, our hypothesis is as follows:

H_2: Taxpayer awareness will increase taxpayer compliance.

Social Norm and Private Norm. Social norm has an indirect effect on compliance through the internalization of private norm, in addition to the direct effects of descriptive social norm on tax compliance decisions, descriptive norm is also shared by individuals and affect personal morals. Wenzel (2005) suggests that support for private norm as a mediator of relationships of social norm, but private norm is only a partial mediator in this relation. According to Bobek *et al*. (2007), subjective social norm is the norm that is mostly experienced by individuals. The actual situation can be difficult to distinguish between private

norm and subjective norm; therefore, subjective norm will also have a direct effect on tax compliance decisions through mediation of private norm. The above-mentioned logic is in accordance with the finding of Bobek *et al.* (2013) which gives a conclusion that the social norm variable can be used as an indicator for the personal norm. Therefore, our hypothesis is as follows:

H_3: Social norm will improve private norm.

Private Norm and Taxpayer Compliance. Internalizing social values in shaping the personal standards of behavior that can be accepted by the values of closest individuals. Individuals surrounded by family members and friends who support taxpayer compliance are also more likely to demonstrate ethical beliefs in the support of behavior. The above-mentioned logic is in line with the finding generated by Bobek *et al*. (2007) conducting research on 254 students and employees in Australia, Singapore and the United States. The results show that private norm is stronger than social norm. Thus, our hypothesis is as follows:

H_4: Private norm will increase taxpayer compliance.

Private Norm and Government Trust. Taxpayers trust the government, so taxpayers are more willing to pay taxes (Torgler, 2003; Torgler *et al*., 2008). The studies conducted in various countries including European countries (Belgium, Poland, Spain, and Switzerland), transition countries (Russia, Estonia, Latvia, Lithuania, Belarus, and Bulgaria) and Asian countries (for example, India), Torgler (2003) believes that trust in government has a positive relationship with the spirit of taxation. Therefore, our hypothesis is as follows:

H_5: Personal tax compliance norm will increase government trust.

Government Trust and Justice Perception. Governance is considered good if it has a fair tax system. The government provides a political system that is not corrupt (Cummings *et al.*, 2009). Willingness to pay taxes can be increased if the government has fair treatment for all taxpayers (Leonardo, 2011) and that extending trust to the government will encourage the government to be fair (Leonardo, 2011). The trust theory as a heuristic provides insight into trust and helps to explain individual to support for government action. Justice is specifically shown to be the strongest estimate of individuals who believe in an organization (Charash and Spector, 2001 and Hubbell and Assad, 2005). This theory suggests that the perception of justice will have a significant effect on individuals' trust. Deconinck (2010) suggests that the information about the equity of an entity or an individual may provide information about the trust of that party. Thus, our hypothesis is as follows:

$H_{6:}$ Government trust will improve the perception of tax justice system.

Justice Perception and Taxpayers Compliance. Justice refers to the allocation of resources consisting of horizontal equity, vertical equity, and foreign equity (Wenzel, 2002). Horizontal equity means that taxpayers in the same situation have the same tax obligations, while vertical equity means that taxpayers in different financial situations have different tax obligations with different finances. On the other hand, foreign equity refers to the taxpayers receiving from the paid tax. The above-mentioned logic is in line with Richardson's (2008) finding which states a conclusion that the positive relationship between perception of justice and compliance. Therefore, our hypothesis is as follows:

H_7: Justice Perception will increase taxpayer compliance.

METHODS OF RESEARCH

This research is categorized as an explanatory research that will prove the causal relationship between two or more variables. In this present study, to determine the effect of social norm and awareness of taxpayers on tax compliance with the mediation of private norm, perception of justice, and trust of the government. This research is a quantitative research and the data obtained from this research is primary data obtained directly from the research respondents.

The research model that has been developed is expected to explain the cause and effect relationship between variables and then is able to create a useful managerial implication in accordance with the research variables. In this research, to analyze and to

know the significant level and interrelationship between variables, analysis method of *Structural Equation Model* (SEM) is used. With this method, it can be seen the effect and the relationship between exogenous variables and endogenous variables associated with the researched problems.

The data processing technique of *Structural Equation Modeling* (SEM) with *confirmatory factor analysis* (CFA) method is used in this research. Observed variables (indicators) illustrate a particular latent variable (latent dimension). As a testing method that combines analysis factors, path analysis and regression, SEM is more a confirmatory than an explanatory method*,* aiming at evaluating proposed dimensionally and related to this prior study. With this understanding, SEM can be used as a tool to confirm *pre-knowledge* that has been previously obtained. The approach taken to estimate the SEM model parameters is divided into two: the first is the structural model, it is also called the latent variable relationship. The approach taken to estimate the parameters of the second SEM model is the CFA Analysis (*confirmatory factor analysis*) as a measurement model consisting of two types of measurement i.e. the measurement model for the exogenous variable and the measurement model for the endogenous variable (independent variable).

Research Respondents. The results of the study involving 280 respondents obtained by way of taxpayer visits, taxpayer consultation to the tax office, and through socialization as well as tax counseling, with data used in the analysis of 254 respondents with dissemination covering gender, age, status, education level, and income. The questionnaire distributed to 280 respondents, 254 questionnaires or 90,71%, 30 questionnaires or 10,71% do not return. The questionnaires do not return because the respondents do not want to fill out the questionnaires, while from the total questionnaire data returned only 250 questionnaire or 89,29% that can be processed, while 4 questionnaires or 1,43% cannot be processed because the questionnaires are not filled in completely.

RESULTS OF STUDY

The measurement models the relationship between latent variables and observed variables. The relationship is reflective where the observed variables are reflections of related latent variables. Determination of observed variables reflects latent variables. Based on the substance of the study concerned, the measurement model seeks to confirm whether the observed variables are indeed a reflection of latent variables. The independent variables in this research are social norm and taxpayers' awareness. While the dependent variable is taxpayers' compliance mediated by private norm variable, government trust, and perception of justice. It is referring to *Structural Equation Modeling* (SEM) method where respondent data is analyzed using analysis software.

Testing 1: *Chi Square*

Chi Square value: 154,90. The smaller the model, the more appropriate between model theory and sample data (*chi square* value divided by *degree of freedom*). Ideal value of < 3 is *good fit*. In addition, divider result obtained value of 1,395. This indicates an adequate match since the smaller value of < 3 is *good fit*.

Testing 2: *Root Mean Square Error of Approximation* (RMSEA)

RMSEA = 0,041, then the match is sufficient *good fit*. (Where RMSEA of < 0,05 is *close fit*, RMSEA of < 0,08 is good fit, 0,08 < RMSEA < 0,10 *marginal fit*, and RMSEA > 0,10 poor fit). *Confidence intervals* are used to assess the achievements of RMSEA *estimates*. At the output, it is shown 90% of *confidence interval* (between 0,025; 0,055) is in about of the RMSEA. *P-value for test of close fit* (RMSEA < 0,05) for this study is 0,84.

Testing 3: *Expected Cross Validation Index* (ECVI)

ECVI model (0,97) is compared to ECVI *saturated model* (1,23) and ECVI *independence model* (6,58). ECVI model is slightly smaller than ECVI *saturated model* and the difference is much greater than ECVI *independence model*, or in other words, ECVI *saturated* closes more to ECVI model than ECVI *independence model*, and 90% of *confidence interval* is 0,85; 1,12, then a good match is obtained (around the ECVI model).

Testing 4: *Akaike Information Criterion* (AIC) and *Consistent Akaike Information Creterion* (CAIC)

AIC model (242,12) is compared to AIC *saturated model* (306,00) and AIC *independence model* (1639,19). AIC model is slightly smaller than AIC *saturated* model and the difference is much larger than AIC *independence model*, hence it shows a good match. The CAIC model (432,03) is far from CAIC *saturated model* (997,78) and furthermore CAIC *independence* (1716,05) indicates a good match.

Testing 5: *Fit Index*

Normed fit index (NFI) = 0,90 shows *good fit*. CFI 0,97 (above 0,90) indicates *good fit*. *Tucker Lewis Index* or *Non Normed Fit Index* (NNFI) = 0,96 (above 0,90) indicates *good fit*. *Incremental Fit Index* (IFI) = 0,97 (above 0,90) indicates *good fit*. *Relative Fit Index* (RFI) = 0,88 (below 0,90) shows *marginal fit*. *Parsimonius Normed Fit Index* (PNFI) = 0,74 (above 0,6) used for model comparison shows *good fit*.

Testing 6: *Critical N*

Critical N (CN) = 239,83 > 200 models representing sample data or *good fit*.

Testing 7: *Goodness of Fit*

Root mean Square Residual (RMR) is the residual average value generated from the *fitting* between the *Variance-co Variance matrix* of the model with the *Variance-co Variance matrix* of the data sample. *Standardized* RMR = 00,5 (indicates *good fit*. *Goodness of Fit Index* (GFI) = 0,93 (above 0,90) shows *good fit* and *Adjusted Goodness of Fit Index* (AGFI) = 0,90 indicates *good fit. Parsimony Goodness of Fit Index* (PGFI) = 0,68 can be used in the model comparison indicating an adequate match.

From the analysis in group one to group seven, some tests show adequate matches such as *Chi Square*, ECVI, AIC CAIC, and *Fit Index*. There are results of *close-fit* results for *RMSEA*. There are results of *marginal fit* results for *RFI*. From the above results, it can be concluded the fit of the model (*goodness of fit*) of this model is eligible. Furthermore, this research produces a path diagram such as *the* following figure path:

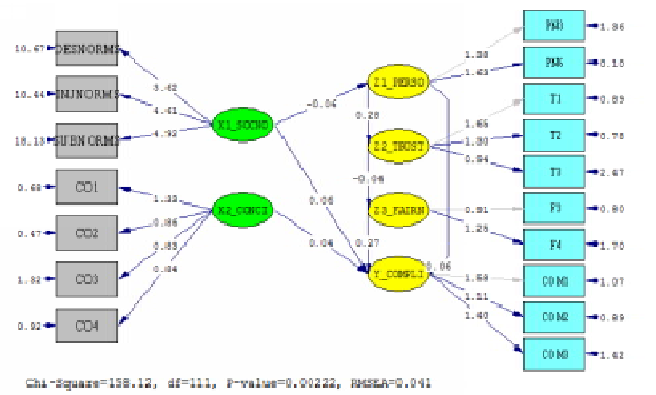

Figure 1 – Model of Structural Equation –Estimation

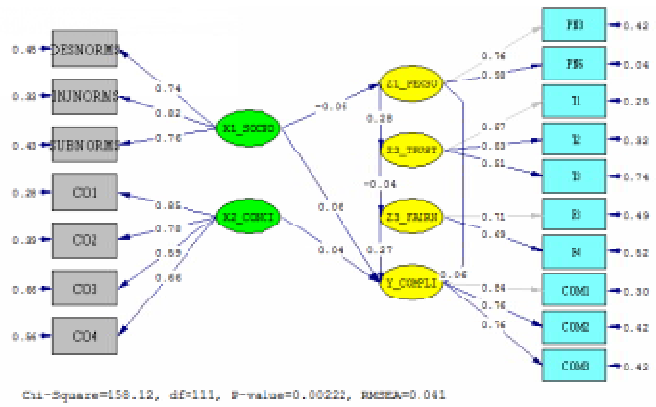

Figure 2 – Model of Structural Equation - *Standardized Solution*

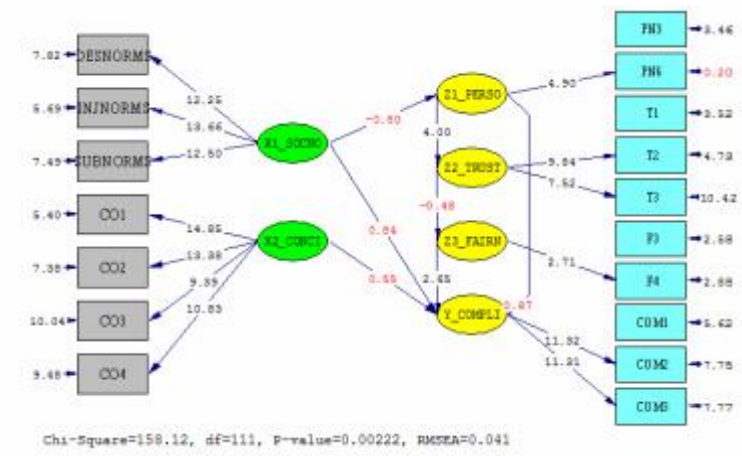

Figure 2 – Model of Structural Equation -t *Value*

Analysis of Causal Relationships. The theoretical model that has been built in the previous step will be described in a path diagram. Path diagram will make it easier for researchers to see the causality relationships that will be tested. In SEM modeling, the researchers work with concepts that have sufficient theoretical foundations to explain the various forms of relationships. The purpose of using causal relationships analysis is to know the causal relationship of each variable. It can be seen as follows:

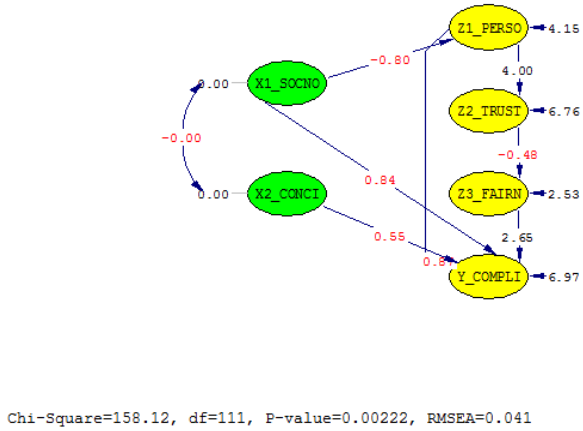

Figure 4 – Path Causal Relation - t Value

The calculation results of *structural equations* and *reduced form equations*, the output of software that is automatically generated on the output program can be seen as follows:

Structural Equations:

Z1_PERSO = - 0.058*X1_SOCNO, Errorvar.= 1.00 , R^2 = 0.0033
Z2_TRUST = 0.28*Z1_PERSO, Errorvar.= 0.92 , R^2 = 0.079
Z3_FAIRN = - 0.041*Z2_TRUST, Errorvar.= 1.00 , R^2 = 0.0017
Y_COMPLI = 0.060*Z1_PERSO + 0.27*Z3_FAIRN + 0.063*X1_SOCNO + 0.041*X2_CONCI, Errorvar.= 0.92 , R^2 = 0.079

Reduced Form Equations:

Z1_PERSO = - 0.058*X1_SOCNO + 0.0*X2_CONCI, Errorvar.= 1.00, R^2 = 0.0033
Z2_TRUST = - 0.016*X1_SOCNO + 0.0*X2_CONCI, Errorvar.= 1.00, R^2 = 0.00026
Z3_FAIRN = 0.00066*X1_SOCNO + 0.0*X2_CONCI, Errorvar.= 1.00, R^2 = 0.00
Y_COMPLI = 0.059*X1_SOCNO + 0.041*X2_CONCI, Errorvar.= 0.99, R^2 = 0.0052

The estimation of the causal relationship of the above research model can analyze causal relationships. The *value of* t *value* and coefficient of structural equation are summarized in the following table:

Table 1 – T-*Value* and Coefficient of Structural Equations

No.	*Path*	*T Value* (t≥1,96)	Conclusion
1	SOCNO → COMPLI	0,84	Not significant
2	CONCI → COMPLI	0,55	Not significant
3	SOCNO → PERSO	-0,80	Not significant
4	PERSO → COMPLI	0,87	Not significant
5	PERSO → TRUST	4,00	Significant
6.	TRUST → FAIRN	-0,48	Not significant
7.	FAIRN → COMPLI	2,65	Significant

Source: The results of the research process

Based on the above table, it can be identified that the coefficient PERSO → TRUST and FAIRN → COMPLI has an absolute value t ≥ 1,96 which means significant, whereas the coefficient SOCNO → COMPLI has a value of 0,84; coefficient of CONCI → COMPLI has a value of 0,55; SOCNO → PERSO has a value of -0,80; PERSO → COMPLI has a value of 0,87; TRUST → FAIRN has a value of -0,48 which is below the standard value (≤1,96) meaning not significant.

Hypothesis Testing Results. In this research, there are 7 hypotheses. Hypothesis testing is done with significance level of 5%, so that it obtains critical value t of ± 1.96. The hypothesis is accepted if the t-value obtained is ≥ 1.96, whereas the hypothesis is not supported if the t-value obtained is ≤ 1.96. Here is the summary of hypothesis test to see if the proposed model is supported by the data:

Table 2 – Hypothesis Testing Results

Hypothesis	Hypothesis Statement	T-Value value	Note
H1	Social norm will increase taxpayer compliance.	0,84	The data do not support the hypothesis
H2	Taxpayer awareness will increase taxpayer compliance	0,55	The data do not support the hypothesis
H3	Social norm will improve private norm	-0,80	The data do not support the hypothesis
H4	Private norm will increase taxpayer compliance.	0,87	The data do not support the hypothesis
H5	Personal tax compliance norm will increase government trust.	4,00	The data support the hypothesis
H6	Government trust will improve the perception of the tax justice system.	-0,48	The data do not support the hypothesis
H7	Justice perception will increase taxpayer compliance	2,65	The data support the hypothesis

DISCUSSION OF RESULTS

There is no Effect between Social Norm and Taxpayer Compliance. The results of the above analysis test found that: the analysis does not support the H1 hypothesis. It suggests that the social norm required by the taxpayer to achieve an overall high compliance do not have clear purpose and the spirit of objectivity achievement. It does not encourage and underpin a taxpayer in measuring the level of compliance. This finding is different from previous research conducted by Jimenez and Iyer (2016) finding that social norm affects taxpayer compliance.

A deeper discussion to know the root cause of this finding can be seen in the dimensions and indicators of the social norm variables. This present study measures social norm by using dimensions proposed by Jimenez and Iyer (2016) in which social norm in this

study is the cause of behavior because it is affected by the needs that exist in human beings. Dimensions including subjective norm, injunctive norm, and descriptive norm are the needs to achieve compliance measured based on taxpayer behavior tested in this study.

These needs are closely related to the behavior of the taxpayers' effort to achieve taxation obligations. From this dimension, besides, several indicators are built which include the number of taxpayers, the number of taxable income, obeying tax rules, family influence, and the effect of peers from research respondents. The results reveal that the subjective norm dimension does not have an effect on compliance on the object of research.

The results of the tests can make a statement that subjective norm in social norm cannot necessarily affect taxpayers' compliance with tax obligations. It means that there is no significant effect between subjective norms on the intention to implement compliance because subjective norm, such as peers, does not have any effect to predict taxpayer behavior. Peers do not play a role to motivate other peers to be professional and in implementing tax obligations, it should be realized in accordance with the prevailing provisions and regulations.

The second dimension that will be examined as a discussion of the research results in social norm variables is the descriptive norm in which the dimension is intended to help the individual determine the success of compliance and avoidance. It is because descriptive norm provides valuable information to individuals to guide behavior. From the dimension, several indicators are built that include the number of taxpayers avoiding taxes and taxable income.

The results of the test provide a statement that the descriptive norm in social norm cannot necessarily affect taxpayers' compliance in fulfilling their tax obligations. This result is also affected by individuals who feel that other taxpayers have a low intention to comply with taxes. Therefore, they have lower moral and will be more likely to avoid taxes. In the findings of this study, it is found that one of the things that become factors that make social norm does not affect compliance on the object of research is that there is no general descriptive norm on the object of research.

The dimension tested further in the social norm variable is the injunctive norm in which the substance of this dimension is to measure individuals who look for social consent to obey the norms. From this dimension, several indicators are built which include testing to comply with tax and business rules to avoid taxes. From the test results, a statement is revealed that the norm in the social norm cannot necessarily affect taxpayers' compliance in fulfilling their tax obligations. This result is also affected by the injunctive norm indicating the level where an individual feel that the public believes it is important to comply with the law tax. Moreover, the findings of this study, it is found that one of the things becoming the factors that make social norm does not affect compliance to the object of research is the fact that there is no general injunctive norm on the object of research.

Finally, it can make conclusions and explanations of the results of research explicating why the findings of research results reveal there is no effect between social norm and taxpayers' compliance on the object of research. From the research problems described above, the weakness of subjective norm, descriptive norm, and injunctive norm become the factors that cause social norm not have effect on taxpayers' compliance on the object of research.

There is no Effect between Taxpayers' Awareness and Taxpayers' Compliance. The results of the analysis test above found that: the analysis does not support the hypothesis of H2. It shows that the taxpayer's awareness needed by the taxpayer to achieve an overall high compliance does not have clear purpose and the spirit of objectivity achievement. Moreover, it does not encourage and underpin a taxpayer in measuring the level of compliance. This finding differs from previous research conducted by Sanders (2008) and Palil *et al*. (2013) which resulted in a conclusion that the higher the awareness of taxpayers, the higher the level of taxpayer compliance.

A more in-depth discussion to see the root of the problem in this finding can be seen in the indicator of the taxpayer awareness variable. This study measures the awareness of taxpayers by using indicators designed by Palil *et al*. (2013) where taxpayer awareness in

this study is a tax awareness which frequently becomes a constraint or a problem to collect taxes from the public. On the other hand, there are several indicators that include testing people's dues for development, government duties run smoothly, and sustainable development of research respondents. The results reveals that the indicators do not have any effect on compliance on the research object.

From the test results, it can be made a statement that the indicator in the taxpayers' awareness does not necessarily affect taxpayers' compliance with tax obligations. It means that there is no significant effect between the contribution of the people for the development, the governments' duties run smoothly, and sustainable development for realizing compliance because of the awareness of the taxpayer, the human awareness in understanding reality and how to react or respond to reality. The human awareness includes self-awareness, the past, and the possibility of the future.

Holistically, it can be made conclusions and explanations of the results of research regarding to why the findings of research results revealing there is no effect between taxpayers' awareness and taxpayers' compliance on the object of research. From the research problems above, the weak contribution for the development of the people, the task of the government runs smoothly and sustainable development become the factors that lead awareness of taxpayers to not have effect on taxpayers' compliance on the object of research.

There is no Effect between Social Norm and Private Norm. The results of the above analysis test reveal that: the analysis does not support the H3 hypothesis. It shows that the social norm required by the taxpayer to achieve an overall high compliance do not have clear purpose and the spirit of objectivity achievement. It does not motivate and underpin a taxpayer in measuring private norm. This finding is different from previous research conducted by Jimenez and Iyer (2016) concluding that social norm affects private norm.

A deeper discussion that looks for the root cause of this finding can be seen in the dimensions and indicators of the social norm variable. This study measures social norm by utilizing dimensions of Jimenez and Iyer (2016) in which social norm in this study is the cause of behavior because it is affected by the needs that exist in human beings. The afore-mentioned dimensions including subjective norm, injunctive norm, and descriptive norm are the needs to achieve compliance measured based on taxpayers' behavior tested in this study.

These needs are closely related to the behavior of the taxpayers' effort to achieve taxation obligations. From this dimension, several indicators are built which include testing the number of taxpayers, the total of taxable income, obeying the tax rules, the effect of the family, and also measuring the effect of peers of the research respondents. The results clearly reveal that the subjective norm dimension does not give effect to the personal norm on the research object.

The results of the test make a statement that subjective norm in social norm cannot significantly affect the taxpayers' private norm on their tax obligations. It means that there is no significant effect between subjective norm on the intention to implement compliance because subjective norm, such as peers, have the effect to predict taxpayers' behavior. Friends colleagues do not play a role to encourage other peers to be professional and in realizing tax obligations that are in accordance with the prevailing provisions and regulations.

The second dimension that will be tested as a discussion of the research results in social norm variables is the descriptive norm in which the dimension is intended to help the individual determine the success of compliance and avoidance. It is because descriptive norm provides valuable information to individuals to guide behavior. From the dimensions, several indicators are built that include the total of taxpayers who avoid taxes and taxable income.

From the test results, a statement can be taken that the norm descriptive in social norm cannot mainly affect social norm in fulfilling their tax obligations. This result is also affected by individuals feeling that other taxpayers have a low intention to comply with taxes, then they have a lower moral, and will be more likely to avoid taxes. In the findings of this study, it is found that one of the things that become factors that make social norm does not affect the

private norm on the object of research is that there is no norm descriptive generally in the research object.

The next dimension examined in the social norm variable is the injunctive norm in which the substance of this dimension aims to measure individuals looking for social consent to obey the norms. From this dimension, several indicators are built which include testing to comply with tax and business rules to avoid taxes. Besides, from the test results, a statement can be made that the norm in the social norm cannot necessarily affect the taxpayers' private norm in fulfilling their tax obligations. This result is also affected by the injunctive norm indicating the level where an individual feel that the public believes it is important to comply with the tax laws. The findings of this study reveal that one of the things becoming factors that cause social norm not affect compliance to the object of research is the reality that there is no general injunctive norm on the object of research.

Finally, it can be taken conclusions and explanations of the results of research about why the findings of research results show there is no effect between social norm and taxpayers' compliance on the object of research. From the research problems described above, the weakness of subjective norm, descriptive norm, and injunctive norm are the factors that cause social norm not have any effects on the taxpayers' personal norm on the object of research.

There is no Effect between Private Norm and Taxpayers' Compliance. The results of the above analysis test show that: the analysis does not support the hypothesis of H4. It reveals that the private norm needed by the taxpayers to achieve an overall high compliance do not have clear purpose and the spirit of objectivity achievement. It does not encourage and underpin a taxpayer in measuring the level of compliance. This finding is different from previous research conducted by Bobek *et al*. (2007) which examines 254 students and employees in Australia, Singapore and the United States. The results show that private norm is stronger than social norm. Thus, it can be concluded that there is a positive relationship between private norm and tax compliance.

A deeper discussion to see the root of the problem in this finding can be seen in the indicator of the tax personal norm variable. It should be noted that this study measures private norm by employing indicators of Jimenez and Iyer (2016) in which the personal norm in this study is a tax compliance behavior that has significant moral and behavioral standards on all behaviors. There are several indicators such as testing moral mistakes, tax errors, and tax evasion of the study respondents. The results clearly portray that the indicators do not have an effect on compliance on the object of research.

The results of the test completely explicate that the indicators in the personal norm do not significantly affect taxpayers' compliance with tax obligations. It brings a meaning that there is no significant effect between the indicators of moral error, tax error, and tax avoidance to implement compliance because the norms personally are developed through the internalization of social norm in individual groups. It is because private norm reflects individuals themselves, then private norm has a significant effect over all behaviors including tax compliance behavior. All in all, it can be drawn conclusions and explanations of the results of research answering why the findings of research results reveal there is no effect between private norm and taxpayers' compliance on the research object. From the research problems formulation shown above, then the strength of moral error, the strength of tax error, and the strength of tax avoidance become the factors that cause social norm not have any effects on taxpayers' compliance on the research object.

There is an Effect between Private Norm and Government Trust. From the results of the analysis test above, it is found that the analysis results support H5 hypothesis. It completely reveals that private norm is frequently respected for government trust. Government trust is based on tax law; therefore, taxpayers compare the contribution of the tax system to the contribution of others. The findings of this study are in line with the findings of Jimenez and Iyer (2016) stating that the variable of private norm affects private norm.

There is no Effect between Government Trust and Justice Perception. The results of the above analysis test show that: the analysis does not support the hypothesis of H6. It demonstrates that trust theory as heuristic provides insight into the effects of trust and help

explain to individual regarding to support for government action. Thus, taxpayers with government relations, including their trust in government, are an important consideration when examining voluntary tax compliance. Trust in government has a significant effect on tax compliance. Consequently, the negative effect of government distrust can provide the means by which taxpayers rationalize tax avoidance.

The test results provide a statement that indicators in government trust do not significantly affect the perception of tax justice. It means that there is no effect between indicators in maintaining government trust, satisfactory quality, and tax benefits to implement tax justice

Eventually, it can make conclusions and explanations of the research results regarding to why the findings of research results show there is no effect between government trust and tax justice on the object of research. From the research problems explained above, the weakness of government trust, satisfactory quality, and tax benefits are the factors that cause the trust of the government does not have effect on taxpayer justice on the research object.

There is an Effect between Justice Perception and Taxpayers' Compliance. Based on the results of the above analysis test, it is found that the results of the analysis support the hypothesis of H7. It shows that the perception of justice can be especially important in tax compliance. Tax compliance supports the idea that perception of justice affects tax compliance. It is intended that the perception of justice is one of the three most important determinants of compliance; therefore. if the taxpayers accept that the tax system does not have a justice, they will be able to rationalize the avoidance. Overall, these results suggest that positive perception of justice is related to compliance. The findings of this study are in accordance with the findings of Jimenez and Iyer (2016) which suggest that justice perception variable affects compliance.

Managerial Implications. The first managerial implication is that private norm has a positive effect on government trust. Trusting each other basically will build cooperation, which then can reduce the cost of transactions between people and then save the use of resources. Even as a result of mutual trust, many efforts are not needed to monitor or to supervise others to behave as expected. Trust will build a sense of responsibility and a sense of respect that will then lead to trust towards those who give the trust. Building trust takes a very long time, but it is often easily destroyed and when a society experiences mutual trust, building cooperation and arrangement will be difficult to achieve. The programs realized to encourage private norm to enhance government trust are: Improving the effectiveness of counseling and public relations by: Launching an integrated communication strategy. The background of this activity is as follows: (i) the community, especially the taxpayers, has different perceptions of the DGT; (ii) compliance with the fulfillment of tax obligations by taxpayers is still relatively low. Integrated communication strategy is one of the initiatives that aims to improve taxpayer compliance with the fulfillment of tax obligations through the implementation of education to taxpayers and the publication of tax law enforcement through the mass media, and to increase confidence to the DGT in the eyes of the community through the refinement of communication methods and the latest issues management proactively.

The programs undertaken to encourage justice in order to improve compliance are: compilation of compliance management model of Compliance Risk Management. Directorate General of Taxation (DGT) requires an integral and a comprehensive strategy built with a risk approach and is able to improve the quality of strategic decision making. To build such a strategy, a common commitment of all stakeholders, a reliable DSS, and policies and units that support the implementation of the strategy are needed. Thus, as a tax institution in a global environment, the DGT should apply *Compliance Risk Management (CRM*) which has also been applied to taxation units in some countries and is considered successful enough in formulating compliance risk management of taxpayers that give impact on the success of the state taxation unit in achieving its strategic goals. CRM is a systematic process in which the DGT makes choices on instruments that can be used to improve taxpayer compliance and prevent non-compliance effectively, based on the knowledge of all taxpayers' behavior and

available DGT capacity. The purpose of this activity is to enable the DGT to achieve its strategic objectives by facilitating management to make better decisions. Strategic activities undertaken to support this activity are as follows: (i) creating awareness and commitment to all DGT stakeholders; (ii) designing risk engine as decision support an integrated and comprehensive system to manage the risk of non-taxpayer; and (iii) drafting policy concepts (business rules and processes) to support CRM implementation.

CONCLUSION AND SUGGESTION

From the results of the analysis tests, it is found that the analysis results do not support the hypothesis of H1. This finding reveals that the results of the study indicate that the subjective norm dimension does not have an effect on adherence to the object of study. From the test results, it can be made a statement that subjective norm in social norm cannot necessarily affect taxpayers' compliance with tax obligations. It means that there is no significant affect between subjective norms on the intention to implement compliance because subjective norm, such as colleagues, does not have the effect to predict taxpayers' behavior. Friends colleagues do not play a role to encourage peers to be professional and the realization of tax obligations encouraging each other should be in accordance with the prevailing provisions and regulations.

The second finding indicates that the results of the analysis do not necessarily support H2. It indicates that the indicator in the awareness of the taxpayers does not significantly affect taxpayers' compliance with their tax obligations. It means that there is no significant effect between the contribution of the people for development, the governments' duties running smoothly, and sustainable development to implement compliance because of taxpayers' awareness, human consciousness in understanding reality, and how to react or respond to reality.

The next analysis finding does not support the hypothesis of H3. It shows that social norm is often perceived by individual groups and become part of the individuals' private norm. The injunctive norm can function as an indicator of private norm because it refers to the perception of the trust of the private norm.

On the other hand, the results of analysis also do not necessarily support the hypothesis of H4 since the indicators in the private norm does not necessarily affect taxpayers' compliance with their tax obligations. It means that there is no significant effect between the indicators of moral error, the amount tax error, and the tax avoidance to implement compliance due to private norm developed through the internalization of social norm in individual groups. It is because private norm reflects individuals themselves; then private norm has a significant effect over all behaviors including tax compliance behavior.

Further analysis results also support the hypothesis of H5 which states that private norm is often understood for government trust. Government trust is based on tax law; hence, taxpayers compare the contribution of the tax system to the contribution of others.

Moreover, in this study, there is also an analysis result that supports hypothesis of H6 stating indicator in government trust does not necessarily affect the perception of tax justice. It means that there is a significant effect between the indicators of maintaining government trust, satisfactory quality, and tax benefits to uphold tax justice.

Eventually, the results of further analysis also support the hypothesis of H7 which states that the perception of justice can be essential especially in tax compliance. Tax compliance supports the idea that perception of justice affects tax compliance. It is intended that the perception of justice is one of the three most important determinants of compliance; hence if the taxpayers accept that the tax system does not have a justice, they will be able to rationalize the avoidance.

The present research can provide optimal benefits for further research objects and it can also be a comparative material in other studies. However, because this study has limitations, the object of research can be made further with the development by using a more homogeneous sample of its characteristics, for example by using a sample of taxpayers of

individuals who have a certain business circulation with the type of business which is limited to a particular field.

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MEDIATION EARNING PER SHARE IN INFLUENCING THE RELATIONSHIP BETWEEN FINANCIAL RATIOS, COMPANY SIZE AND OPERATING CASH FLOW TO STOCK RETURN

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ABSTRACT
This research focuses on examining the influence of financial ratios using several variables (net profit margin, return on equity, debt to equity ratio, current ratio, price to book value, total asset turnover), firm size and operating cash flow to stock return through mediation earning per share in manufacturing companies. This research uses the financial statements of manufacturing companies for 7 years (2008-2014) with purposive sampling method and obtained 38 samples of manufacturing companies. This research is classified as a quantitative research with analytical method used is path analysis. The results of this research indicate that net profit margin, total asset turnover, debt to equity ratio, and firm size directly affect the variable earnings per share. While the results of path analysis explained that earnings per share indirectly mediate the relationship between net profit margin, total asset turnover, debt equity ratio, and firm size to stock return variables.

KEY WORDS
Financial ratios, company size, operating cash flow, stock return, path analysis.

Research conducted by Riegel (2013) in his book entitled Stock for the Long Run investigated real return on all types of investment activities from 1802 to 2012 in the United States and Britain. The results of this research published in the Journal of Monetary Economic show that stock investment is the most profitable investment activity compared to other investments such as bonds, gold and foreign exchange, both long-term investment and short-term investment.

Stock prices tend to be more stable towards the economic inflation rate so that trading in the stock market becomes quite crowded. The ease of obtaining information increasingly causing investors interested in investing and trading stocks. Undeniably the stock return is also influenced by other components such as earnings, interest rate, risk and the uncertainty of psychological factors of an investor (Riegel, 2013).

Bhattacharya (1979) developed a signal model, that the high dividends distributed indicate the high performance of the company that will increase the company's value and the company's stock price. Furthermore, the signal model was developed by Rozeff (1982) into signaling theory hyphotesis which assumes that the dividend seems to have information or as a cue to the future prospects of the company, so it can be concluded that the signaling theory is emphazising more on how important information issued by a company and its effect on the prospects and future of the company.

Information is a very important element for both investors and business actors i.e. description of the condition of the company, both past conditions, current and future circumstances to see the viability of a company. Therefore, complete, relevant, accurate and timely information will be necessary for investors in investing in the capital market as an analytical tool in deciding investment through earning per share viewed based on net income

of the company and will ultimately affect the profit of investors in the market Capital through stock returns.

Alexander et al. (1993) stated that the announcement of accounting information can represent that the company has a good prospect in the future or a portrait for investors so that investors are interested in trading stocks, thus the market will react as reflected through changes in stock trading volume. Therefore the relationship between the publication of information whether the financial statements, financial or socio-political conditions to fluctuations in trading volume of shares can be seen in market efficiency. The information in this research is the annual financial statements of companies that are analyzed using financial ratios. According to Van Horne and John (2005) the analysis and interpretation of the various ratios can provide a better view of the financial condition and achievement of the company than the financial data is not shaped ratio, so the results of the ratio calculation is expected to provide an insight for investors in investing.

Theoretical framework in this research explains the influence of financial information issued by the company is able to provide an insight for investors in gainining profits in the market efficiently through stock returns. Huda and Nasution (2008) explained that investors are using financial statement information by looking at various factors that can affect the rate of return. This forms as a fundamental factor that the value of a company's stock is reflected in the company's financial performance. Companies that publish annual report information with good performance are expected to provide an insight and can provide maximum profit for investors in the market efficiently through stock returns.

Stock returns are heavily influenced by many factors other than the company's annual information, such as the characteristics of the company. The characteristics of a company are assumed to have a major influence on investor decisions related to the profit to be gained. Characteristics of companies in this research includes the firm size, where one of these characteristics is widely used as a research variable in affecting stock return associated with risk and return obtained by investors.

Panjaitan (2004) argued that firms with small-scale or limited assets tend to be less profitable for investors to invest compared to large-scale companies or large assets. This is because small-scale companies have supporting factors to produce goods in limited quantities compared to large companies. So based on the explanation can be concluded that companies with small scale tend to have a relatively high risk compared with large-scale companies.

Another supporting parameter in the financial statements that can be used as a reference for investors in investing is the company is cash flow. Most of the company's earnings are influenced by the activities contained in the cash flows, especially cash flows from operating activities that are the main operating activities of the company. Statement of financial accounting standards that describes the cash flows of the company's operating activities, in which the amount of cash flows from operating activities is an indicator that determines whether the operations of the company can generate sufficient cash flow to repay the loan, maintain the operating capability of the company, pay dividend to investors and create new investments without relying on external sources of funding (IAI, 1999). Therefore, by considering the cash flow of operating activities can represent the internal financial performance of the company without any influence from outside the company.

Based on the aforementioned research and theories, the authors plan to develop and perform research financial ratio through net profit margin, return on equity, debt to equity ratio, current ratio, price to book value, total asset turnover, and earning per share. Moreover, it also uses additional supporting variables that can affect investors in making decisions through operational cash flow and size of the company and its impact on stock returns to be gained by investors.

Although the research of stock returns has been widely conducted, this research is still interesting to be re-examined because the results of research are inconsistent or different. Therefore, it encourages the researcher to conduct a research return on stock return by merging and developing based on previous research. This research is based on previous research conducted by Martani et al. (2009) which examined the influence of financial ratios,

firm size, and operating cash flow to stock returns, and research conducted by Taani (2011) which examined the influence of financial ratios, firm size and operating cash flow to earnings per share. Martani [9] studied the effects of financial ratios, firm size and cash flow on stock returns have become a reference for subsequent research including Taani (2011) by using the same independent variables as Martani et al. (2009) and Pouraghajan et al. (2013) on the Tehran Stock Exchange in Iran and Vedd et al. (2014) states in the State of California United States.

Based on the results of aforementioned research, the authors perform another research with different conditions, locations and research periods. In addition, this research tries to combine the variables found in previous research by developing a research framework using mediation variables that is expected to further strengthen the influence between exogenous and endogenous variables of this research.

Based on the above description the authors are interested to examine the variables that affect stock returns on manufacturing companies listed on the Indonesian Stock Exchange. The research problem is formulated as follows: (1) whether net profit margin, return on equity, current ratio, debt to equity ratio, total assets turnover, price to book value, firm size, and cash flow operation effect on earnings per share? (2) Whether earning per share mediates the relationship between net profit margin, return on equity, current ratio, debt to equity ratio, total assets turnover, price to book value, firm size, and cash flow operation against stock return?

The objectives in this research are (1) To examine whether net profit margin, return on equity, current ratio, debt to equity ratio, total assets turnover, price to book value, firm size, and cash flow operation effect on earnings Per share (2) The second research objective is to examine the effect of earning per share in mediating the relationship between net profit margin, return on equity, current ratio, debt to equity ratio, total assets turnover, price to book value, firm size, and cash flow operation on stock return.

METHODS OF RESEARCH

This research is a quantitative research with a framework that evaluates theories through measurement of research variables with numbers and statistical methods in performing data analysis (Indriantoro and Supomo, 2002). This emiprical research uses hypothesis to evaluate consistency of empirical findings especially related to the influence of independent variable to dependent variable (Sekaran, 2009).

The population in this research is all manufacturing companies listed on the BEI (Indonesia Stock Exchange) in 2008 - 2014. The reason for choosing the time period is that the longer the study period, it can help to increase the accuracy of the result. This research was extended until 2014 because the data is relatively new.

The sample in this research has been selected in such a way that the sample used is not biased and able to reflect the actual conditions. Sampling method that is used is purposive sampling method, which is to select the sample based on certain criteria that have been determined. These criteria include the companies are in manufacturing group and listed on the BEI during the period of observation, i.e. 2008-2014; the companies publish their audited financial statements for fiscal year 2008-2014; the companies are never delisting; the shares of these companies are actively traded during the years 2008-2014.

The data are collected based on historical records or data that already exist (Jogiyanto, 2007). The data collected in this research is an annual report of manufacturing companies listed on the BEI and related to the research variables. Based on the time dimension, the data used in this research is cross-sectional data, where the data obtained comes from a series of observations on a variable taken at one point of time.

Source of data used in this research is secondary data. Secondary data is generally a source of research data that can be obtained indirectly and without doing direct observation in the field. Secondary data can be in the form of evidence, records or historical reports of a research object that has been prepared in the archive of both published and not published data.

This research uses ten variables and each variable has its own operational definition. The operational definition is a way of measuring these variables in order to operate (Jogiyanto, 2007). Basically the data to be used in this research can be grouped into three groups of variables, namely: independent variable i.e. net profit margin, return on equity, current ratio, and debt to equity ratio, total assets turnover, price to book value, firm size, cash flow operation. Mediation variables in this research are earning per share and stock return as the dependent variable.

This research uses ten variables and each variable uses the measurement as presented in Table 1.

Table 1 – Research Variable

No	Point	Description
1	ROE	Net Income / Total Equity
2	DER	Total Liabilities / Total Equity
3	NPM	Net Profit / Revenue
4	CR	Current Assets / Current Liabilities
5	TATO	Net Sales / Total Assets
6	PBV	Stock's Market Value / Book Value
7	SIZE	(Ln) Logarithm Total Assets
8	CFO	(Ln) Logarithm Cash Flow Operation
9	EPS	Net Income / Average Outstanding Shares

Sources: Research variables based on aforementioned reseraches by Martani (2009), Taani (2011), Pouraghajan et al. (2013), and Vedd et al. (2014).

Return of stock is the amount of stock return received by the shareholders. The return of stock used in this research using realized returns calculated by calculating the difference between the initial period price and the end period price of the stock. The calculation of stock returns in previous studies used the closing price during the observation period Jogiyanto (2003) with eq. (1).

$$R_{ti} = \frac{(P_{ti} - P_{ti-1}) + D}{P_{ti-1}} \qquad (1)$$

Where: P_{ti} = Individual Share Price in Period t; P_{ti-1} = Individual Share Price in Period t-1; D = Deviden.

Hypothesis testing in this research using SEM analysis (Structural Equation Models) with Path analysys method. Path analysis method varies depending on the relationship between the model of variables studied. In this research path analysis using a mediation model with the direction of relationships between variables arranged in the same direction. Therefore, the estimation of the regression equation used for testing the hypothesis defined as:

$$EPS_{it} = \beta 1\ NPM\ it + \beta 2\ ROE\ it + \beta 3\ CR\ it + \beta 4\ DER\ it + \beta_5 TATO_{it} + \beta_6 PBV_{it} + \beta_7 SIZE_{it} + \beta_8 CFO_{it} + e_1 \ldots [1]$$

$$RETURN_{it+1} = \beta_9 EPS_{it} + e_2 \ldots [2]$$

Here in after the following are the stages of testing variables that must be performed:

Descriptive statistics are statistics that is used to collect, process, present, and analyze quantitative data descriptively. Specifically, descriptive statistics are used to indicate the amount of data and show the average value, standard deviation, minimum value, and maximum value of the variables studied.

Linearity test is used to determine whether or not linear relationship between exogenous variables and endogenous variables. The test criteria states that if the probability value <level of significance (alpha (α = 5%)) then it is said that there is a linear relationship between exogenous variables and endogenous variables. If there are variables that are not linear shows the variable contains extreme data and there is imbalance to other variables, so that variable can not be analyzed and must be discarded.

Designing structural model (inner model), design of structural model of relationship between variables on Partial Least Square (PLS) is based on the formulation of the problem or hypothesis in the research. When designing a structural model has been completed, then the design of inner model is further expressed in the form of a lane diagram. The initial stage of testing that must be done in using SmartPLS 2.0 M3 application is designing a structural model of research. After designing the structural model of the next research determine the path diagram or research direction in this research using path analysis (path analysis).

Goodness of fit Model is intended to determine the ability of endogenous variable to explain the diversity of exogenous variables, or in other words to determine the contribution of exogenous variables to endogenous variables.

Hypotesis Testing. Testing the significance of the variable directly (direct effect). Significance testing is used to test the hypothesis developed in the model that is the influence of exogenous variables on endogenous variables. Hypothesis testing in the research emerged because of the background that formed a research design and research objectives. The level of confidence used in this research is 95%, therefore that for the level of precision or limit the inaccuracy of the data that can be tolerated is (α) = 5% = 0.05 and with t-table value of 1.96.

Indirect significance test through mediation variable (indirect effect) is performed with the intention to determine whether there is indirect influence between independent variables to the dependent variable through variables that mediate the relationship of these two variables.

Hypothesis testing of research that there are variables that mediate can be done through testing Sobel (Sobel Test). Testing Sobel, this test can be performed manually in excel work paper using Sobel Test test formula.

Sobel Test is conducted in to calculate the power of indirect effect between the independent variable (exogenous) to the dependent variable (endogen) through the variables that mediate the relationship between the two variables. The indirect effect of X to Y through M is calculated by multiplying the path X → M (a) by the path M → Y (b) or ab. Thus the coefficient ab = (c-c), where c is the effect of X against Y without control M, and c is the coefficient of influence X against Y after controlling M (Ghozali, 2011).

Testing criteria is said to be significant influence if T-Statistics ≥ T-Table 1.96. Indirect effect can be concluded after calculated using Sobel Test method. This test can be done manually in excel work paper using Sobel Test test formula.

RESULTS OF STUDY

Data are collected from all manufacturing companies listed on the Indonesia Stock Exchange in 2008-2014 obtained as many as 146 companies; furthermore, data are sampled sampling with purposive sampling method with certain criteria obtained 38 company samples.

The research was conducted for 7 years starting from 2008 to 2014. Hypothesis testing in this research used SEM (Structural Equation Models) analysis with path analisys method, where the results of the test in this research were obtained as follows:

Descriptive analysis results obtained that the highest average (Mean) is on the Return on Equity (ROE) that of 16.471 and the lowest in stock returns of 0.254. Next standart deviation or the highest standard deviation also shows that the variable Return on Equity (ROE) of 28.364 and the lowest in stock return variable of 0.576. The number of sample in this research is 38 go public companies listed in BEI and meet the criteria specified in the research, where the test of descriptive analysis is presented through Table 2.

Linearity test in this research shows that there is no variable that is not linear, thus can be stated that all relation between exogenous variable to endogenous variable is linear correlation.

After designing the structural model then the path determine diagram or research direction, which in this research using path analysis and obtained inner model. After the inner

model and path diagram is formed and the data of each variable is processed into the research model then the next is calculating the data research results.

Table 2 – Descriptive Analysis

No	Variable	N	Mean	Std.deviation
1	NPM	228	7.268	8.060
2	ROE	228	16.471	28.364
3	CR	228	2.299	1.740
4	DER	228	1.276	1.546
5	TATO	228	1.340	0.609
6	PBV	228	3.947	7.514
7	SIZE	228	15.182	1.560
8	CFO	228	9.643	8.511
9	EPS	228	4.352	2.912
10	RS	228	0.254	0.576
	Valid N (listwise)	228		

Sources: Descriptive statistical test results using SPSS 20 of manufacturing companies listed on the Stock Exchange.

Table 3 – Linearity Testing

No	Eksogen	Endogen	F	Sig.
1	NPM	EPS	213.351	0.000
2	ROE	EPS	149.607	0.000
3	CR	EPS	12.871	0.000
4	DER	EPS	50.351	0.000
5	TATO	EPS	6.122	0.014
6	PBV	EPS	31.516	0.000
7	SIZE	EPS	27.125	0.000
8	CFO	EPS	26.976	0.000
9	EPS	RS	10.709	0.001

Sources: The results of linearity testing using SPSS 20 of manufacturing companies listed on the Stock Exchange.

The result of data processing is then used to calculate the significant influence between the variables based on the structural model design of the research. Figure 1 is the result of the design of inner model based on the research framework, for the next done data processing:

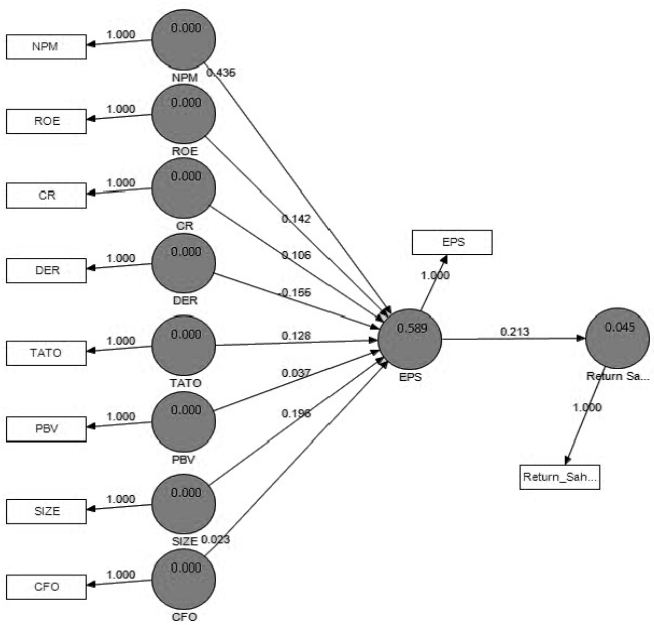

Figure 2 – Result of the Design of Inner Model

Goodness of fit Model in PLS analysis is performed by using Q-Square predictive relevance (Q2) taken from R-Square (R2) value to dependent variable or influenced variable. R-Square (R2) variable Earning per share (EPS) is 0.589 or 58.9% and R-Square (R2) stock return variable is 0.045 or 4.5%. Therefore, obtained Q-Square predictive relevance (Q2) is worth 0.607 or 60.7%.

Table 4 – R-Square *(R^2)* Calculation

No	Variable	R^2
1	Earning per share	0.589
2	Stock return	0.045

Sources: Bootstraping data - the path coefficients result of SmartPLS 2.0 M3 of endogenous variables.

$$Q^2 = 1 – (1 – R_1^2) \times (1 – R_2^2)$$
$$Q^2 = 1 – (1 – EPS) \times (1 – RETURN)$$
$$Q^2 = 1 – (1 – 0,589) \times (1 – 0,045)$$
$$Q^2 = 0,607$$

The results show the contribution of Net Profit Margin (NPM), Return on Equity (ROE), Current Ratio (CR), Debt to Equity Ratio (DER), Total Assets Turnover (TATO), Price to Book Value (PBV), Cash Flow Operation (CFO) and Earning Per Share (EPS) to the overall Stock Return 60.7%, while the rest of 39.3% is the contribution of other variables that are not discussed in this research.

Hypothesis Testing. Direct test results (direct effect) on the 9 research variables result is 5 variables that directly influence direct (direct effect). These variables are influence of net profit margin (NPM) to earnings per share (EPS) of 3,588, the effect of debt to equity ratio (DER) to earnings per share (EPS) of -2.912, the influence of total assets turnover (TATO) to earnings per Share (EPS) of 2.540, the effect of firm size on earnings per share (EPS) of 2.773, and the effect of earnings per share (EPS) on stock return is 3.487. Summary of direct effects test results is presented in Table 5.

Table 5 – Direct Effect Result

No	Exogen	Endogen	T Statistics (|O/STERR|)
1	NPM	EPS	3.588
2	DER	EPS	-2.912
3	TATO	EPS	2.540
4	SIZE	EPS	2.773
5	EPS	RS	3.487

Sources: Data bootstraping - path coefficients result of SmartPLS 2.0 M3 of variable that directly affects direct (direct effect) on earnings per share in the equation of the first hypothesis.

Tests of indirect significance through the variable mediation (indirect effect) on 8 variables studied can shows that, there are 4 variables indirect effect (indirect effect) significant effect on stock return.

Table 6 – Inderect Effect Result

No	Exogen	Mediation	Endogen	T Statistics (|O/STERR|)
1	NPM	EPS	RS	2.500
2	DER	EPS	RS	-2.235
3	TATO	EPS	RS	2.053
4	SIZE	EPS	RS	2.170

Sources: The indirectly significant variable uses the earning per share as the mediation variable in the second hypothesis equation using Sobel Test calculation.

These variables include earnings per share (EPS) able to mediates the relationship between net profit margin (NPM) to stock return of 2,500, earnings per share (EPS) able to mediates the relationship between debt to equity ratio (DER) to stock return of -2.235, Earnings per share (EPS) is able to mediate the relationship between total asset turnover

(TATO) to stock return of 2.053, and earnings per share (EPS) mediating the relationship between firm size to stock return of 2,170. Summary of indirect effect test results is shows in Table 6.

DISCUSSION OF RESULTS

This research is conducted to evaluate and analyze the influence between financial ratios, firm size and operating cash flow to stock return through earning per share in manufacturing companies in Indonesia. The test is performed to determine the direct effect of the variable financial ratios (net profit margin, return on equity, debt to equity ratio, current ratio, price to book value, total asset turnover), firm size and operating cash flow to earnings per Share. Furthermore, this research also investigates the indirect effects of variable financial ratios (net profit margin, return on equity, debt to equity ratio, current ratio, price to book value, total asset turnover), firm size and operating cash flow to stock return through Earning per share as a mediation variable. The use of financial ratios, firm size and operating cash flows that are information derived from the company's financial statements as a factor affecting stock return is an attempt to identify the signaling theory through earnings per share.

Based on the result of data analysis, it is concluded that the contribution of financial ratio variable which consist of profitability ratio through net profit margin (NPM) and return on equity (ROE), value through book value (PBV) ratio, debt ratio through debt to equity ratio DER), liquidity ratio through current ratio (CR), activity ratio through total asset turnover (TATO), and other characteristics that can also describe the company's condition through firm size (SIZE) and cash flow operation (CFO) and earnings per share (EPS)) To the overall stock return is 60.7%, while the rest of 39.3% is the contribution of other variables that are not discussed in this research.

In general, the results of this research support the theory to the effect of financial statement information on investment decisions that will affect stock prices and stock returns in efficient markets. The results of the research have found that financial ratios measured through net profit margin (NPM), debt to equity ratio (DER), total asset turnover (TATO), firm size (direct effect) influence earnings per share EPS) calculated through the company's earnings. While Stock Return is directly influenced by earnings per share (EPS).

The indirect effect in this research uses path analysis which can be concluded that the stock return is indirectly influenced by net profit margin (NPM), debt to equity ratio (DER), total assets turnover (TATO) And firm size (SIZE) through earning per share (EPS) as a mediation variable.

The results of this research explain there are phenomena associated with signaling theory. This can be proved by the influence of firm size (SIZE), net profit margin (NPM), debt to equity ratio (DER), total assets turnover (TATO), and earnings per share (EPS) to stock return. Financial information into investor consideration in evaluating company performance and the company's going concern.

The effect of earning per share (EPS) as a functioning mediating variable strengthens the influence between exogenous and endogenous variables capable of being shown in this research. This is indicated by the significance of variables that significantly affect earnings per share (EPS) also have a significant effect on stock returns. These results are able to explain that earnings per share (EPS) will provide additional financial information that will be a consideration for investors in making a profit in investing in efficient markets.

CONCLUSION

There are limitations in this research that can provide insight for further research direction i.e. (1) apart from the variables that are used to evaluate stock returns and earnings per share which tend to be subjective, there might be missing variable in which give greater influence on stock return variable. (2) Only specific population that is used i.e. manufacturing companies listed in Indonesia Stock Exchange (BEI), therefore it may not be able to describe

the effect of these variables on stock returns. (3) There are other factors that are not listed in this research affecting stock return that can influence investors' decisions in investing.

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THE EFFECT OF ORGANIZATIONAL CULTURE AND WORKING ENVIRONMENT ON EMPLOYEE PERFORMANCE: STUDY ON THE EXAMPLE OF PRINTING COMPANY

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ABSTRACT
The main objective of this research is to examine and analyze how the organizational culture influences on the performance of the employees of Banjarmasin Post Group, and find out how the work environment has influence on the performance of its employees. Involved sample in this studies are 100 employees across all departments. The proposed model indicates that it can deliver the dependent variable by 71% by the quite strong relation at 0.846. The finding indicates that significant effect is occurred on working environment while the organizational culture doesn't contribute any significant effect on employee performance. However, the simultaneous effect indicates that both variables were affecting employee performance.

KEYWORDS
Employee, engagement, print business, performance, organization.

Every organization or company needs production factor namely resources to achieve its goals. Resource implied in this topic is consist of source of energy, energy, power needed to create power, motion, activity, activity and action. In terms of company production resources consist of natural resources, financial resources, human resources, science resources and technological resources.

Business competition today is becoming rough and hard to be entered. Company success factor is depends on the quality of human resources who run it. Generally every company has the same goal which is maintain the life-cycle and performance of the company. The successful company is inseparable from the role of qualified human resources that run all the systems within the company. The most important resource of a company or organization is the human resources of the person who has provided their energy, talents, creativity and effort to the organization (Handoko, 2001). Therefore, the advancement of a company can be determined from human resources capable of performing the best performance of each individual.

Humans always play an active role in determining plans, systems, processes, goals to be achieved by the company (Hasibuan, 2011). Goals cannot be realized without the employee's role, although the support of facilities and infrastructure and the source of funds owned by the company will not be of benefit to the company, if the employee's active role is excluded. Employee is a key element of the organization. The success or failure of the organization depends on employee performance. Therefore, organizations are investing huge amount of money on employee development (Sheikh *et al.*, 2017). There are several studies that develop the process for developing employee performance that are aligned with organizational goals (Development, 2011). Prior research found that organizational culture has significant effect on employee job satisfaction.

LITERATURE REVIEW

Organizational culture can be characterized as the common, fundamental suspicions that an organization learnt while adapting to the environment and tackling issues of external adjustment and internal cooperation that are instructed to new individuals as the right approach to take care of those issues (Yoo and Park, 2007). Each employer has its specific

culture, which develops time beyond regulation to mirror the company's identity in dimensions: seen and invisible (McDermott and O'Dell, 2001). The visible size of subculture is contemplated within the espoused values, philosophy and assignment of the firm at the same time as the invisible measurement lies in the unspoken set of values that manual employees' moves and perceptions inside the corporation (Hong, Suh and Koo, 2011). Organizational factor is introduce in 2002 consist of organization structure, information systems, people, reward system, leadership and processes (Gupta and Govindarajan, 2000). The finding on prior research indicates that the strong culture of an organization based upon managers and leaders help in improving level of performance. Managers relate organization performance and culture to each other as they help in providing competitive advantage (Awadh and Saad, 2013). Finding also shows that factors such as empowerment and recognition increase employee motivation. If the empowerment and recognition of employees is increased, their motivation to work will also improve, as well as their accomplishments and the organizational performance (Dobre, 2013). Based on those prior researches the hypotheses were drawn as follow:

H_1: Organizational culture affecting employee performance.

Work environment in the company also affects the performance carried out by employees. This work environment itself consists of physical and non-physical attached to the employees was inseparable from the business development of employee performance (Gruman and Saks, 2011). A fresh, comfortable and fulfilling work environment that meets the standards of worthy needs will contribute to the employee's comfort in doing his job. Non-physical work environments that include the hospitality of employee attitudes, mutual respect at different times of opinion, etc. are mandatory requirements to continuously foster the quality of employee thinking that can ultimately foster their performance on an ongoing basis (Solomon *et al.*, 2012). Study on small scale company indicate that special focus and effort is required specifically on the factors working-environment and team and co-worker relationship as they have shown significantly higher impact on employee engagement and hence employee performance (Anitha, 2014).

H_2: Working Environment affecting employee performance.

METHODS OF RESEARCH

Type of research used by the researcher in this study is quantitative research which use research model that requires the existence of the calculation of the numbers, while the approach used is survey-approach that is the research taking samples from the population and using the questionnaire as the main data collection tool (Singarimbun, 1970; Singarimbun and Effendi, 2011; Creswell, 2013).

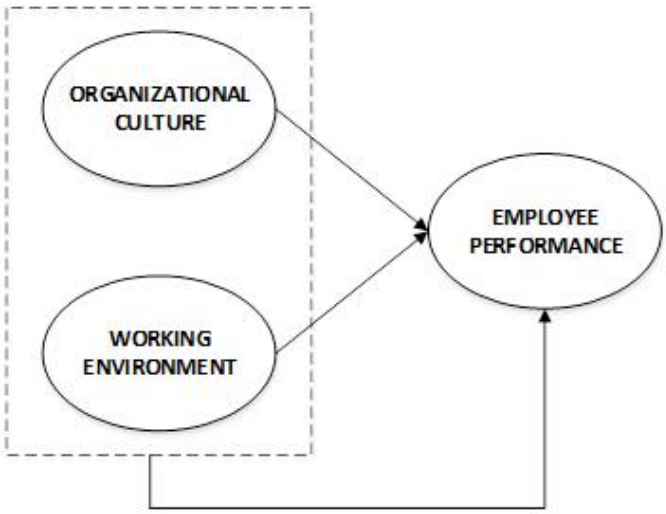

Figure 1 – Proposed Model

To facilitate the justification of employee perceptions is used 5 points Likert scale which require unique data analysis procedures, and as a result, misuses and/or mistakes often occur (Boone and Boone, 2012).

The object of this research is Banjarmasin Post Group (B. Post). Members of the population in this study were all employees of Banjarmasin Post Group (B. Post). In this study the sample was determined as many as 100 respondents by using stratified random sampling.

Inferential analysis is intended to examine the hypothesis proposed in the study, which is by using Multiple Linear Regression Method and overall data analysis implemented by using computer program statistics SPSS for Windows.

RESULTS AND DISCUSSION

Collected data examine both using descriptive analysis and inferential analysis. Descriptive analysis is aimed to get a central value of research respondent on proposed questionnaire. Table 1 shows the mean of each item and the variable mean.

Table 1 – Descriptive Statistics Resume

Variable/ Item	Item Mean	Variable Mean
Organizational Culture		
1. Complete the work differently	3.89	3.762
2. Advising opportunity	3.73	
3. Employee ability in completing the task	3.74	
4. Willing to listen to suggestions	3.71	
5. Helping other employees	3.74	
Working Environment		
1. Comfortable with working atmosphere	3.71	3.692
2. Willing to provide assistance to colleagues if needed	3.73	
3. Facilities in the workplace are adequate	3.75	
4. Workplace facilities are complete and comfortable	3.60	
5. Every employee has a working uniform	3.67	
Employee Performance		
1. Every employee finishes the job neatly and thoroughly	3.75	3.710
2. subordinate never complain about the work	3.69	
3. Quality of work is correspond with determined standards	3.57	
4. Employees can achieve determined targets	3.79	
5. Employees may exceed the target	3.75	

Source: SPSS Output.

Table 2 – Regression Output of Partial Examination

Mode		Unstandardized Coefficients		t	Sig.
		B	Std. Error		
1	(Constant)	.489	.232	2.111	.037
	Organizational Culture	.052	.089	.589	.557
	Working environment	.800	.080	9.952	.000

Source: SPSS Output.

Table 3 – ANOVA output of Simultaneous Examination

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	38.925	2	19.463	122.533	.000(a)
	Residual	15.407	97	.159		
	Total	54.332	99			

Source: SPSS Output.

Table 4 – Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	R Square Change	F Change	df1	df2
1	.846(a)	.716	.711	.399

Source: SPSS Output.

From the constant table it was obtained a number of 0.489 which means without any contribution of organizational culture and working environment, the employee performance measured as many as 0.489.

From the organizational culture contributing as many as 0.052 on employee performance for every 1 point of change in organizational culture. The t_{calc} shows a non-significant effect of organizational culture on employee performance. Which means that the proposed hypothesis is not supported.

Working Environment contribute as many as 0.800 on employee performance for every 1 point of change in working environment. The sig column shows an expected probabily of 0.000 (alpha 0.05) regarded as a significant effect on employee performance.

From ANOVA table it was obtained that the F_{calc} is more than F_{table} by the probability of 0.000 (alpha 0.05) which is means that simultaneously both organizational culture and working environment is affecting the employee satisfaction. It means that organizational culture can't be a sole indicator in predicting the employee satisfaction.

From the model summary table it can be drawn that the model (Organizational Culture and working environment) can explain the predictor of employee performance as many as 71.6% (R^2 = 0.716) which the rest are predicted by other variables beyond this study.

The relationship of independent and dependent variable were categorized as strong enough as many as 0.846 which closest to 1.

RESEARCH LIMITATION

The great results of model examination don't merely determine the perfect results. The difficulties to combine prior studies as a research base-line sometimes make the model development more difficult to get done. This research was done on a specific company so the degree of generality may results a less compatibility on another object. Further research need to include more variable and indicator and gaining a wider object and sample criteria.

CONCLUSION AND RECOMMENDATIONS

This research examines the effect of organizational culture and working environment on employee performance. The study was conducted at national printing business at south Kalimantan business unit namely Banjarmasin Post Group (B-Post). Both variable indicate a simultaneous effect on employee performance while partially, it was only the working environment that affect the employee performance. However, since the organizational culture doesn't indicates any significant effect on employee performance, it shows a great results from employee's responses. It can be drawn from the descriptive statistics that indicates most of the item means was at level 4 and so do with the variable means. This finding is supported by the prior research the results doesn't merely make the organizational culture code-of-conduct were poorly applied. It can indicate that the organizational culture were already settled down in this organization, so any improvement of organizational culture would not give any further impact on employee performance (Solomon *et al.*, 2012; Muogbo, 2013; Zameer *et al.*, 2014).

However, there is no research without any limitation. There are several limitation in this study as recommendation for future research. This research is limited on specific industry and specific object since there was little large printing business in the area. Thus the wider scope of sample is necessary for greater degree of generality against particular theories. The more involved indicator in this research and employing structural model would make the finding richer in the future.

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RURAL TOURISM AS ONE OF THE ELEMENTS OF VILLAGES' SOCIO-ECONOMIC DEVELOPMENT

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ABSTRACT
At present, special attention is paid to the diversification of the rural economy, to the development of non-agricultural activities, employment expansion and incomes increase of the rural population on this basis. Existence of the large number of unemployed rural populations and the non-availability of possibilities to create more jobs cause combination of negative social and economic affects. One of the alternative employment ways is rural tourism. The developed rural tourism positively affects: the creation of new jobs, involvement and consolidation of youth in rural areas, growth of employment and reducing migration, increasing tax revenues to the local and regional budgets, social development of rural areas, rational use of natural resources, preservation of cultural heritage and folk crafts. The results of the study showed that there is decrease of rural population number, and the reduction of villages in Russia. However, in some regions of the Central Federal District, local authorities pay special attention to the development of rural tourism. Although there are still many unsolved problems for the development of this kind of activity. The conducted SWOT-analysis allowed determining the main directions of tourism development in rural areas of the Russian Federation.

KEY WORDS
Economy, tourism, rural areas, state support, grant support, programs of tourism Economy, tourism, rural areas, state support, grant support.

The sustainable development of rural areas cannot be imagined without solution of the rural employment problem. Large number of unemployed population has an extremely negative impact on the social and economic development of the village. As a result, the development of domestic tourism, first of all rural tourism, as promising direction of alternative employment, takes central stage. Foreign and domestic experience of the number of Russian regions showed that the development of rural tourism can be beneficial for involving and consolidation of youth in rural areas, growth of employment and reducing migration, increasing tax revenues to the local and regional budgets, social development of rural areas, rational use of natural resources, preservation of cultural heritage and folk crafts.

The Russian Federation, like no other country in the world, has unique natural resources. Most of its territory is occupied by forest fund lands - 65.8% and agricultural land – 22.4%. Therefore, the important task is to preserve and develop rural areas and regions with an agrarian bias. It should be noted that in recent years an unfavorable situation which slowed down the social and economic development happens in the village: low incomes of rural population, the lack of adequate labor conditions, the unfavorable demographic situation, the underdeveloped socio- engineering and transport infrastructure [1].

According to the annual monitoring, the number of rural settlements in the territory of the Russian Federation has decreased by 4.7% in recent years (Figure 1) [2]. The reasons for this reduction can be: the elimination of depopulated villages, or their integration in order to reduce management costs.

In recent years, the rural population tends to decrease, so in 2017 it was 37772 thousand people, which is 3.7% less than in 2000 (Figure 2). This situation has developed not only as the result of natural population decline, but also because of negative migration balance.

Low employment of the rural population does not contribute to the socio-economic development. In 2015, the occupational level of rural population varied in the regions of the Russian Federation from 48% to 70.5%. Agriculture, trade personal services, and education are the main work of rural people. According to the sociological survey, the main problems affecting the rural population are: rising prices for goods and services; low level of wages, pensions, scholarships and benefits; problems of employment [2].

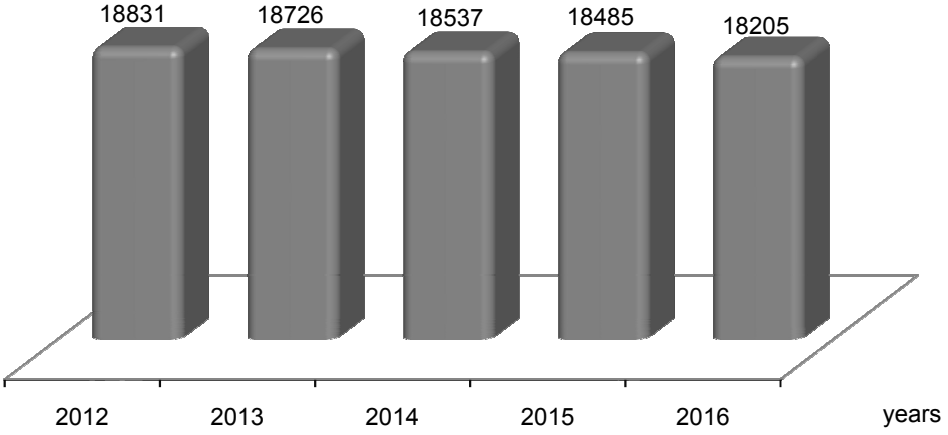

Figure 1 – The number of rural settlements of the Russian Federation

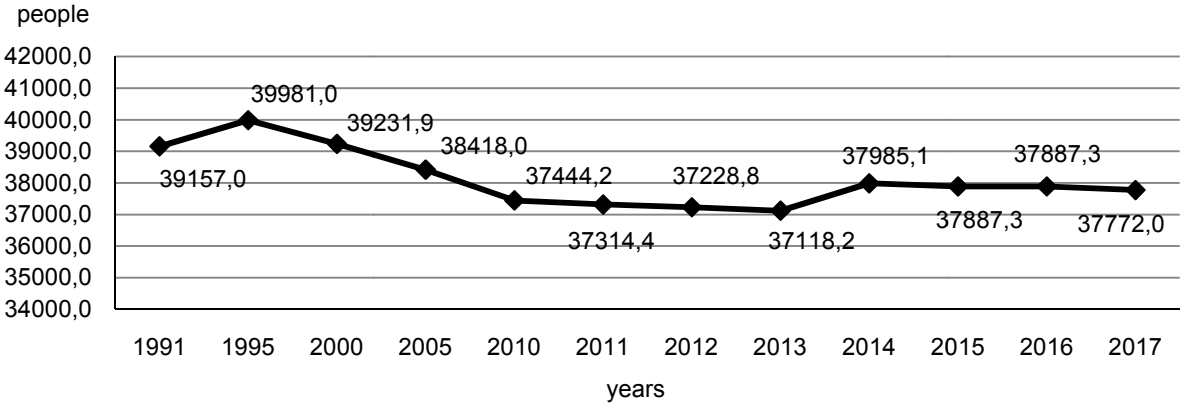

Figure 2 – Number of the rural population of the Russian Federation

Existence of the large number of unemployed rural population and low probability of creating new jobs entail combination of negative social and economic effects. Therefore, the diversification of the rural economy, the development of non-agricultural activities and services, which will become the basis for increasing employment and raising the incomes of the rural population, becomes topical. Tourism can be one of the alternative employments.

Tourism with its form verities (culture-related tourism, hunting and fishing tourism, rural tourism, agrarian tourism, eco-tourism, sports tourism) is optimal alternative for creating new jobs, reducing of migration, attracting young people to development of this sphere of activity, improving social and economic situation, development of engineering and road infrastructure, development and preservation of cultural heritage.

It should be noted that tourism became one of the first branches of the Russian economy which could successfully affect the import substitution of the provided services. Compared with the previous year, in 2016, according to the Association of Russian Tour Operators, the demand for domestic tourism grew by 15% [3]. In 2016, according to the Ministry of Agriculture of Russia, 1236 organizations were engaged in the development of rural tourism [4].

The growth of domestic tourism is provided with the existence of an extensive tourist base, which increases every year, so the number of museums for the investigate period more than doubled, the number of cultural heritage objects increased by 3.4 times, the number of state nature reserves by 30%, the number of national parks more than doubled (Figure1).

Table 1 – The tourist base of the Russian Federation

n/n	1991	1995	2000	2005	2010	2015
Number of museums	1282	1725	2047	2285	2578	2758
Number of cultural heritage objects, thousands	49,6	64,5	84,9	87,8	143,4	171,1
Number of state natural parks	79	94	100	100	101	103
Number of state parks	22	30	35	35	40	48

In recent years state provides purposeful support of the domestic tourism development through the implementation of:

Strategies for sustainable development of rural areas of the Russian Federation for the period until 2030 [5];

Concept of sustainable development of rural areas of the Russian Federation for the period until 2020 [6];

The activities of federal target program "Development of domestic and incoming tourism in the Russian Federation (2011 - 2018)" are directed to develop tourist and recreational complex of the Russian Federation, as well as improve the quality of tourist services and promote the tourist product of the Russian Federation in the world and domestic travel services markets [7];

The state program of the Russian Federation "Development of Culture and Tourism" for 2013-2020, whose tasks are the improving of the quality and services availability in the sphere of domestic and international tourism, creating favorable conditions for sustainable development of the cultural and tourism sector [8];

Grant support of local initiatives of citizens lived in rural areas in the part of the federal target program "Sustainable development of rural areas for 2014-2017 and for the period until 2020" is carried out in such priority directions as the creation and arrangement of parks, shores, beaches and other public places; preservation and restoration of natural landscapes, historical and cultural monuments; support of national cultural traditions, folk crafts (creation of museums of peasant life, traditional crafts and skills, organization of sightseeing festivals of interethnic culture, support of informative projects about popularization of national cultural traditions) [9].

The development of tourism, including rural tourism, is carried out as a part of regional concepts, programs and subprograms at the regional and local level. Special economic zones of a tourist-recreational type of federal and regional significance are created.

However, in spite of the above listed, the problem of legislative regulation of tourism in the Russian Federation remains unresolved and there is no approved concept of "rural tourism" in any of the normative legal acts concerning tourism.

Currently, this line of activity is governed by more general legislative acts, such as: "On the basics of tourism in the Russian Federation" [10]; Civil Code of the Russian Federation, Chapter 39. In spite of the absence of specialized legislative acts that significantly thwart progress of rural tourism, according to Russian Federal Agency for Tourism, the Arkhangelsk, Kaluga, Tula, Kaliningrad regions, the Republic of Tatarstan, the Republic of Ingushetia, the Republic of Altai, the Krasnodar Krai, the Altai Krai, Irkutsk, Kostroma and Saratov regions actively engaged in its development. The annual potential demand for rural tourism in Russia is about 600 thousand people [7].

The development of tourism on the territory of individual regions depends on its suitability for this type of tourism activity and the available potential. Studies, conducted by various agencies and publications, which are summarized in ratings, permit to get general idea of the region's tourism potential [11, 12]. The National Rating of the Tourist Attractiveness of Russian Regions, conducted by the Central Executive Committee "Rating"

and the magazine "Rest in Russia" is one of them (Figure 3). The main criteria of the rating were [13]: the level of tourism business development and infrastructure; the importance of the tourism industry in the region's economy; turnover of tourist services; popularity of the region among Russians; the popularity of the region among foreigners; tourist uniqueness; ecological "health" of the region; crime situation; interest to the region as place of rest in Internet; promotion of the region's tourism potential in the information space.

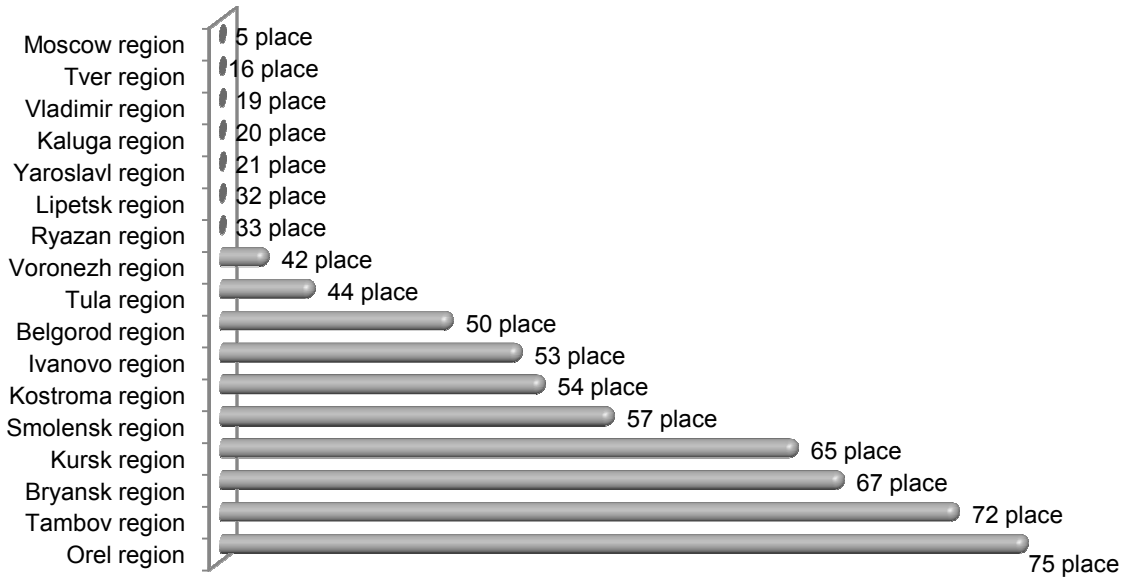

Figure 3 – Rating of the tourist attraction of the Central Federal District regions in 2016

According to the results of this rating, the leaders of tourist attraction in the regions of the Central Federal District were Moscow, Tver, Vladimir, Kaluga and Yaroslavl regions. Eight regions: Lipetsk, Ryazan, Voronezh, Tula, Belgorod, Ivanovo, Kostroma and Smolensk are in medium group. These regions have a good potential in the development of tourism, however, because of some reasons, for example, undeveloped infrastructure or weak popularization of tourism products cannot move to the leading group. Outsiders among the regions of the Central Federal District are the Kursk, Bryansk, Orel and Tambov regions, because all these regions are economically weak. However, many regions make enormous efforts to develop tourism and have high scores on certain rating criteria.

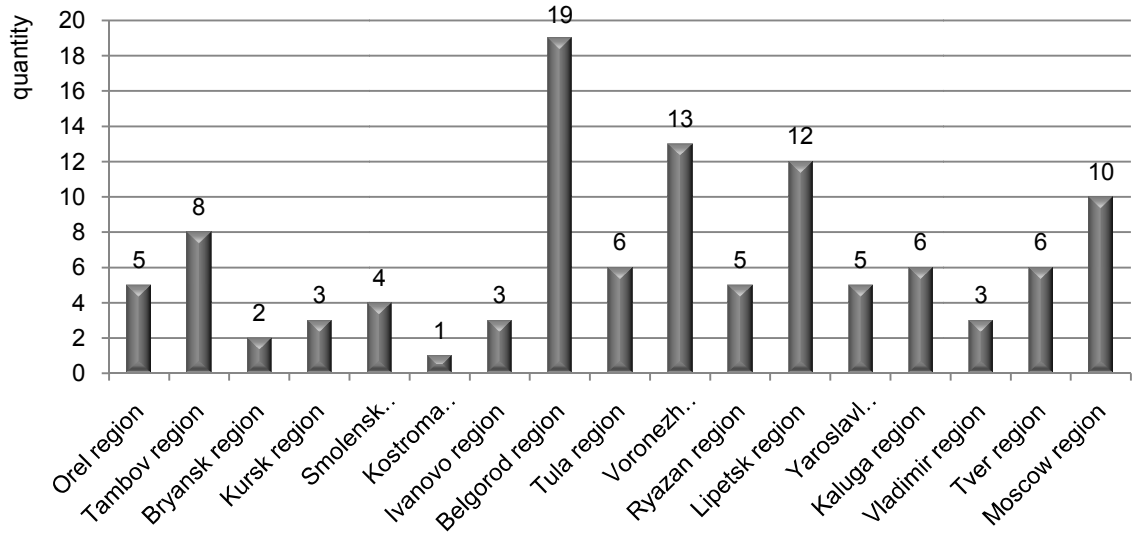

Figure 4 – Distribution of rural tourism destinations in the Central Federal District

Table 2 – SWOT-analysis of tourism in rural areas of the Russian Federation

Strength (S)	Weaknesses (W)
1. In the Russian Federation as of 01.01.2016 there are 1,592 urban settlements and 18,177 rural. 2. Wide variety of climatic conditions 3. Rich natural and resources potential of rural areas of Russia 4. A variety of cultural and historical heritage (ancient manors of the nobility, churches, monasteries, sacred springs, military monuments, archaeological sites). 5. Wide range of events held in different regions of the Russian Federation all year round 6. The presence of sanatoriums, health camps for children, recreation centers, boarding houses (children's recreation camps - 2.2 thousand). The availability of secondary special and higher educational institutions training cadres for the tourism industry. 7. The Federal Center for Agricultural Counseling and Retraining the Personnel of the Agro-industrial Complex, including those engaged in retraining and consulting in the sphere of rural tourism. 8. Production of ecologically pure production in personal subsidiary farms and collective farms. 9. Federal State Program "Development of domestic and incoming tourism in the Russian Federation for 2011-2018". 10. The Strategy of Tourism Development in the Russian Federation for the Period to 2020. 11. Federal State Program "Sustainable development of rural areas for 2014-2017 and for the period until 2020" 12. Created structures for supporting small and medium-sized enterprises in the regions. 13. Developed transport network. 14. The draft federal program "Development of domestic and incoming tourism in the Russian Federation for the years 2019-2025" was developed and was agreed upon.	1. Insufficiently effective use of existing advantages of economic and geographical position of regions. 2. Weak regional branding and regional tourism products. 3. Low awareness of the rural population of the regions about such type of tourism as rural. 4. Weak awareness of the population about the tourism potential of their region, lack of special tourist information on the streets, service facilities and display. 5. Absence of the unified base of Russian regions tourist resources. 6. Absence of the unified rules of the service provision in rural tourism. 7. Regional travel agencies do not have information about the objects of rural tourism. 8. The unsatisfactory state of most cultural heritage objects. 9. The lack of incentive measures to support and develop small business in rural tourism. 10. Low safety of travel to some natural monuments. 11. Insufficient demonstration of the goods of national art crafts and their promotion. 12. Lack of research on the analysis of demand for services. 13. The possibilities of weekend tours are not sufficiently evaluated.
Opportunities (O)	Risks(R)
1. The interest of local governments in the development of rural tourism. 2. Development of rural infrastructure. 3. Increasing the living standards of the rural population of the region. 4. Development of small and medium-sized enterprises in rural areas. 5. Active promotion of grant support for local initiatives under the program of the Federal Target Program "Sustainable Development of Rural Areas for 2014-2017 and for the Period to 2020" 6. Development of public-private partnership in the sphere of rural tourism. 7. Creation of brands in Russian regions. 8. Improving the quality of advertising and information support for the tourism sector. 9. Formation of competitive regional tourist products. 10. Increase of the cultural level of the country's population. 11. Conservation of cultural and historical heritage. 12. Development of small business in rural areas 13. Diversification of the economy in rural areas 14. Reduced out-migration of people from villages	1. Imperfection of the regulatory and legislative framework in the field of rural tourism. 2. Low level of recreation culture. 3. Decrease in the number of rural population in the regions of the Russian Federation. 4. Decrease in the solvency of the population of the country. 5. Strong competition on the price / quality ratio from foreign countries. 6. Lack of state support of the tourism industry. 7. Deterioration of the state of engineering, municipal, road and transport infrastructure and cultural heritage objects. 8. Unstable political situation.

The rural tourism is quite young direction, but rather promising for Russian Federation. In European countries, this type of recreation became very popular in the 70's of the 20 century. An obvious factor of the state importance of this type of tourism is that it can become the significant source of additional and sometimes basic income for the rural population, especially in depressed regions, to increase revenue from taxes to local budgets. For the state, the development of rural tourism is also activation of the rural community

activities, the propagation of national cultural traditions, the preservation of the culture and historical heritage of the regions, and the development of business and cultural ties [14].

Expert assessments based on studies conducted in the Moscow, Kostroma and Ryazan regions show that the approximate level of income from agro-tourist activities per administrative region of the Russian Federation may amount to 30 mlns rubles per year [15].

The rural territories of the Central Federal District have unique natural, climatic and cultural-historical features that allow developing practically all popular types of tourism, one of which is rural tourism, where the presence of tourism facilities is of great importance. As the Figure 4 shows, most of the objects of rural tourism are located in the Belgorod, Voronezh and Lipetsk regions. This is a consequence of the fact that regional authorities actively work in this aspect according to the means of target programs for the tourism development. However, most of the tourist sites created in the village is the local population investments.

Due to evaluation of different factors, affecting the development of rural tourism in Russian Federation, determining the strengths and weaknesses of this tourist product, and determining the "growing point", we conducted a SWOT analysis (Table 2).

The presented SWOT-analysis showed that in order to realize the potential of the tourism sector in the rural areas of the Russian Federation, following is necessary: creation of the regulatory and legislative framework for the tourism sector as a whole; expansion of tourist relationships not only between the regions of the Russian Federation, but also with foreign countries; formation of positive image of rural areas to attract not only tourists but also investors; expansion of the state support of the tourist cluster; preservation of natural and cultural-historical values within the regional targeted programs; development and modernization of road and transport infrastructure.

CONCLUSION

The development of the tourism industry will help to solve the number of socio-economic problems of federal and regional importance. Such as: the lack of jobs in rural areas; the disappearance of small settlements, and thus a rural life; low standard of living; migration of youth to cities; lack of interest in Russian traditions; aging or absence of engineering and social infrastructure of rural settlements; the devastation of estates and villages; lack of small business in rural areas; lack of funds in local budgets; inadequate attention of investors to rural areas.

For the further development of rural tourism on the territory of Russian regions, the positioning of the tourism industry and infrastructure in the external environment by disseminating information about them and methods of branding are of particular attention. In this regard, it is important to develop passports for tourist activities, which provides the implementation of a number of activities: development of project (documentation) for tourist activities objects; development of engineering requirements and safety requirements for tourist objects; development of feasibility study of tourism projects, maintenance of accounting documents, legal support of tourist activities.

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THE INFLUENCE OF SOCIAL CAPITAL AND ENTREPRENEURSHIP ORIENTATION ON BUSINESS STRATEGY AND PERFORMANCE OF MICRO, SMALL AND MEDIUM ENTERPRISES: A STUDY IN TIMOR TENGAH UTARA

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ABSTRACT
This research aims to explain the Influence of Social Capital, Entrepreneurship Orientation on Business Strategy and Performance of Micro, Small and Medium Enterprises (MSME). The population of this study is owners and/or managers of MSME furniture processing industry and traditional weaving industry in district of Timor Tengah Utara with a sample of 40 respondents. Sampling technique is done using simple random sampling. The analysis data technique used in this research is Partial Least Square approach. The results of this study indicate that social capital and entrepreneurship orientation have a significant effect on the business strategy and performance of MSME.

KEY WORDS
Social capital, entrepreneurship orientation, business strategy, performance.

Micro, Small, and Medium Enterprise (MSME) is one of the leading driving forces in the economic development of the society. MSME sector reaches up to the lowest layer of the community. Therefore, it plays a vital role to create the economic growth and employment. Various countries have acknowledged the contribution of MSME, but its implementation is different from one country to another. Its role in encouraging the rate of economic growth and employment is enormous. In some countries, MSME is able to encourage the real sector in various business fields to contribute to the formation of GDP (Gross Domestic Product) in many cases. The contribution to the GDP is higher compared to other Countries in Asia amounted to 57.8%. Although Indonesian MSME tends to serve the local market which is proven by the low export value amounted to 15.8% below Philippines, Thailand, and Malaysia. This is quite reasonable due to extensive domestic market and most of these business actors have limited understanding of the export activity.

Maintaining and developing the national economy can be done by involving as many economic actors as possible. Based on their potential on the basis of the justness for all of the stakeholders. However, life capacity of the MSME as a business unit is determined by many factors. The results of a survey conducted by WEF (2014-2015), the biggest obstacle in Indonesia is corruption followed by access to financing and inflation. The performance of MSME should be carried out simultaneously and comprehensively to overcome these obstacles and to develop MSME, which can be done through the continuous effort from various agencies and ministries, as well as the banking sector, where coordination is done by the ministry of MSME.

So far, various approaches, perspectives and business strategies have been done to improve the performance of MSME and to know the performance development of MSME. Approach and perspective to be done to describe the phenomenon of MSME to maintain and improve the business performance such as perspective of social capital. Social capital refers to the part of a social organization such as trust, norm, and network that can improve the efficiency of the community by facilitating the coordinated actions (Putnam, 1995a: 167, in Field, 2003). Newton (1997: 575, in Leksono, 2009) argues that there are three elements in the social capital namely: a) norm and value b) working network or organization/institution and c) its consequences and result. Recently, it is acknowledged that traditional capital type (natural, human and physical resources) only determines partially from the whole process of economic growth. Another determining factor that has been relatively neglected is the way

economic actors interact and organize themselves to encourage the development and growth. This neglect is described as the loss of one of the link series of economic growth and development namely social capital (Grootaert, 1998, in Vipriyanti, 2014).

Components of social capital should be maximally utilized by business actors in improving the performance of MSME where social networks are used by business actors to gain market access, knowledge, cooperation, tool aid, capital and others. While the belief and norm are used by business actors to build commitment with other parties in order to maintain the existing cooperation.

The orientation of entrepreneurship has an effect on business performance (MSME). Entrepreneurship is a knowledge that studies about the values, ability, and behavior of an individual in facing the life's challenges. Entrepreneurship is a knowledge that has the object with the ability to create something new and different (Zimmerer and Scarborough, 1998, in Kristanto, 2009). Entrepreneurship and innovation are central to the creative process of the economy. Innovation is a specific function of entrepreneurship as a way of creating resources by utilizing the existing resources to produce wealth Drucker (1998, in Kristanto, 2009). Entrepreneurship process is typically the same as the process of management strategy. In the entrepreneurship research field, the orientation of entrepreneurship has become an important construct. The underlying proposition for the importance of entrepreneur orientation is that the existence of research that proves the existence of entrepreneurship orientation (proactive, innovative and risk-taking). It has a positive influence on the performance of MSME (Zhi and Jintong. 2012). The orientation of entrepreneurship is a core element of the form of business organization, especially in the improvement of the business performance. The need for achievement is the basis of the innovation as a strong psychological factor that triggers someone to do an activity. As long as the goals have not been clearly achieved to be the key factor in determining the action to improve the business performance.

In addition, the strategy is important activities required to achieve the goal. Porter (1985) in Hamili, 2016) explains that the most important meaning of understanding the strategy as taking different action from a competitor in an industry to achieve a better position. According to David (2012, in Faruq and Usman, 2014), the strategy is a shred tool with a long-term goal to be achieved. Meanwhile, Hitt (2012, in Faruq and Usman, 2014) argues that strategy is an integrated and coordinated series of commitment and action designed to exploit the key competency and gain competitive advantage.

Therefore, business strategy is a regular and pragmatic approach that can be used by the organization. Both for public and private in the current decision making for the future of the organization.

This research is selected and can be done based on the preliminary supervision and observation. The business actors in Timor Tengah Utara (TTU) District is experiencing the symptom of fundamental problem commonly suffered that is the weakness in the field of entrepreneurship such as the lack of innovation, not ready to take the risk, less proactive and tend to wait for consumers to come. In addition, most of the business actors have not built the capital modal among business groups that often lead to unhealthy competition, and has a limitation in formulating the business strategy beneficial to the business life in the future.

Improvement of the performance of MSME in the TTU District should be done to survive and compete, thus the business actors should develop entrepreneurial oriented spirit which includes: innovative, risk-taking, and proactive. They can also build social capital among business groups that include trust, networking, and norms in running a business, as well as building business strategies that will direct and facilitate a person in achieving goals. Furthermore, the formulation of the problem in this research is:

- How does the social capital affect the business strategy?
- How does entrepreneurial orientation affect the business strategy?
- How does social capital affect the performance of MSME?
- How does entrepreneurship orientation affect MSME performance?
- How does business strategy affect MSME performance?

LITERATURE REVIEW

Increasing competition among business actors as well as the government's effort to improve the economic life of the community attracts the economist to conduct a research on micro, small and medium-scale business related to social capital, entrepreneurship orientation, business strategy, and performance. Previous studies have become the basis for developing the conceptual framework of this study. Direction and purpose of the research can be seen based on the conceptual framework that has been built.

The social capital variable is developed based on the Putnam's (1996) theory that characteristics of social organization such as belief, norm, and network enabling the participants to act together more effectively to pursue common goals. In addition, it is also developed by Giusta (1999) and Casson & Delia Giusta (2004) that capital modal can improve the economic performance. Social capital can be interpreted as the characteristic of social organization in the form of social network, norm, and belief that play a role in the mutual cooperation. Thus, the measurement of social capital in this research is done based on the indicator of the network, norm, and trust attitude.

Entrepreneurship orientation variable is developed based on the research conducted by Suci (2009). Her research found that the entrepreneurship orientation influences the business strategy. Meanwhile, Zhi and Jintong (2012) indicate that entrepreneur-oriented companies become the antecedents to the implementation of business strategy. When the management implements entrepreneurship through innovation, risk-taking and proactive in each of their business activity, they are more likely to adopt a strategy to cope with their growing business environment dynamic. Theoretically, this study is supported by the theory from McGrath (1996) who suggests that entrepreneurial orientation can be an important measurement method on how a company is organized. This is also an important entrepreneurial contribution to entrepreneurial performance.

Meanwhile, business strategy variable is developed based on the theory of Barney and Hesterly (2008, in Faruq and Usman, 2014). The strategy is described as a theory on how a company achieves competitive advantages. Long-term strategic planning is derived from the company's effort to seek the basis of the competitive advantage from generic strategies (Pearce II and Robinson, 2007) namely:

- Striving to achieve low cost (overall Cost leadership) in the industry.
- Striving to create unique products for various customers or differentiation.
- Striving to serve a specific demand on one or more groups of consumers or industry (Focusing) on cost or differentiation.

The performance variable of MSME is measured based on the research conducted by Samosir et al. (2016) and Soares (2014), namely Sales growth, manpower growth and human resources. Performance is about what to do and how to do it. Performance is the result of work that has a strong relationship with the goal of organizational strategy, consumer satisfaction and economic contribution (Amstrong and Baron, 1998, in Wibowo, 2007).

According to Putnam (1996, in Fitriawati, 2010), the features of social organization, such as trust, norm and network that enable participant to act together more effectively to pursue common goals.

Meanwhile Fitriawati in her research states that social capital plays a very important role in small industry strategy. Trust has an important role in the production process, norm or regulation plays an important in establishing price as well as work arrangement, and the network has an important role in the business fabric for marketing. Handayanti et al (2012) argue that social capital construct can statistically affect the competitiveness.

One of the resources that can provide competitive advantage is the resources developed through various social approaches with its social attribute (Oliver, 1997) known as social capital (Coleman, 1988). In this regard, social capital is seen as one of the instruments that encourage the growth and development of competitive advantage which is the target of business strategy mediating the process in achieving the goal.

Three key elements in the social capital are network, trust and norm. Network is used to access resources needed to achieve common goals and benefits. Trust and norm are used to build commitment to maintain a cooperative relationship and encourage someone to work with others to create productive activity or action together.

H1: Social capital positively affects business strategy.

Roopke (2004) states that entrepreneurship is the process of creating something new (new creation) and making something different from the existing stuff (innovation), the purpose is to achieve individual well-being and added value of the society. Meanwhile, empirical study conducted by Suci (2009) found that entrepreneurial orientation influences business strategy.

An important element of entrepreneurship orientation is innovative, proactive and ready for the risk-taking, thus an entrepreneur or business actor is required to transform or apply the three key elements in conducting his or her business to survive and compete with an increasingly dynamic business environment.

H2: The Entrepreneurship Orientation positively affects the business strategy.

According to Putnam, the definition of 'social capital' is part of social life, network, norm, and trust that encourage the participants to act effectively to achieve common goals (Putnam, 1996, in Field, 2003).

Social capital was developed theoretically by Giusta (1999) and Casson & Delia Giusta (2004) and empirically by Knack and Keefer (1997) who state that social capital can improve economic performance. While empirically, Astuti (2015) states that social capital affects the performance.

Social capital has important elements in the form of network, norm, and trust. Thus, social capital can affect the business performance at the innovation level, access to the market and its role in obtaining information, technology and giving other resources.

H3: Social Capital has significant effect to MSME Performance.

According to McGrath (1996), entrepreneurship orientation can be an important measurement on how a company is organized and an important entrepreneurship contribution to its performance. Meanwhile, Zhi and Jintong (2012) indicate that entrepreneur-oriented companies are becoming the antecedent to the implementation of the business strategy. When management is applying entrepreneurship by being innovative, courageous of risk-taking and proactive in each of their business activity. They tend to appropriately implement the strategy to cope with their increasingly dynamic business environment. Then, the entrepreneurship orientation reflects the tendency of the owner (entrepreneur) to be included in the innovative behavior, courageous of risk-taking, and proactive in defeating the competitor and a chance to improve their business performance.

H4: Entrepreneurship Orientation has a significant effect on MSME Performance.

According to Barney and Hesterly (2008, in, Faruq and Usman, 2014), the strategy is defined as a theory on how a company achieves competitive advantages. While long-term strategic planning is derived from the company's entrepreneur to seek the basis of the competitive advantage of generic strategies (Pearce II and Robinson, 2007): striving to achieve low cost (overall Cost leadership) in the industry; striving to create unique products for various customers or differentiation; striving to serve a specific demand on one or more groups of consumers or industry (Focusing) on cost or differentiation.

Business strategy is the activities undertaken to achieve the goals and gain advantage through low-cost strategy, differentiation strategy and focus strategy that will also contribute to the improvement of business performance. This statement refers to the research conducted by Dani et al (2013) and Maskur (2015) who state that business strategy has a significant effect on performance improvement.

H5: Business strategy has a significant effect on MSME Performance.

Therefore, this research will examine and explain the Influence of Social Capital and Entrepreneurship orientation on Business Strategy and Performance of Micro, Small and Medium-Scale Business. In accordance with the above description on the background of the problem, the foundation of the theory and previous research, Figure 1 shows the research model.

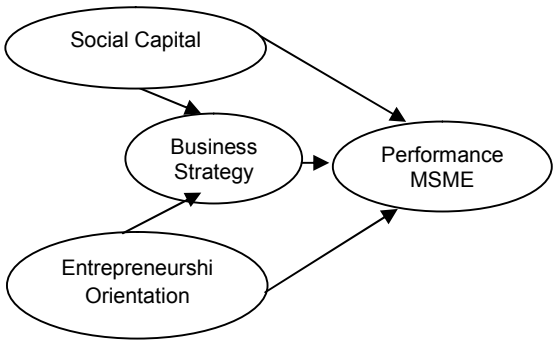

Figure 1 – Research Model

METHODS OF RESEARCH

The research method used in this study is explanatory research with quantitative approach. This research was conducted in Timor Tengah Utara (TTU) District. The number of population in this research amounted to 143 units of MSME and the sample amounted to 40 units actor of MSME furniture processing industry and Ikat weaving processing industry. Social capital is measured using three items developed from research conducted by Fitriawati (2010) and Astuti (2015). Entrepreneurship orientation is measured using three items developed from research conducted by Suci (2015) and Zhi & Jintong (2012). Business strategy is measured using three items developed from research conducted by Dani et al (2013) and Maskur (2015). And MSME performance is measured using three items developed from research conducted by Samosir et al (2018) and Wicaksono and Nuvriasari (2012).

RESULTS OF STUDY

H1: Social Capital has a significant effect on Business Strategy. Social Capital has a significant influence on Business Strategy with path coefficient amounted to 0.5093 and t statistic amounted to 4.3942 bigger than t table (1.960) and significant or $p \leq 0.05$. This shows that if social capital is well managed then it can be an opportunity for MSME in developing and maintaining the business. Through the research result, the business can be improved by fixing the business strategy and affecting the future of furniture industry as well as Ikat weaving industry in Timor Tengah Utara-Kefamenanu District. By doing this, the business will improve faster and will be ready to compete with the increasingly dynamic business environment.

H2: Entrepreneurship Orientation has a direct and significant positive influence on the Business Strategy. Entrepreneurship Orientation has a positive influence on the Business Strategy with the path coefficient of 0.4075 and t statistics of 2.8354 greater than t table (1.960) and significant or $p \leq 0.05$. Entrepreneurship Orientation undertaken by the owners of MSME in their business activity is capable of producing high competitiveness if they can act more creative by inventing something new, different and unique while generating important values for the customers. Proactively anticipate the competitors, as well as taking the risks in business, but still paying attention to innovative products. The entrepreneurship orientation will contribute positively to the creation of competitive advantages through increased business productivity.

H3: Social Capital has a direct and significant positive influence on the Performance of MSME. Social Capital has a positive influence of 2.2058 smaller than t table (1.960) and significant or $p \leq 0.05\%$. This finding indicates that if social capital is built and manage well, it will be a chance for MSME to develop and improve the performance of MSME. This will give the positive effect from the generated results which is improving the MSME and affecting the future of increasingly popular furniture industry and Ikat weaving industry in Timor Tengah Utara-Kefamenanu District.

H4: Entrepreneurship Orientation has a direct and significant positive influence on the Performance of MSME. Entrepreneurship Orientation has the positive influence on the Performance of MSME with the path coefficient of 0.3504 and t statistics of 2.6955 smaller than t table (1.960) and significant of $p \leq 0.05\%$. This result indicates that entrepreneurship orientation gives significant influence on the Performance of MSME. Better entrepreneurship orientation will improve the Performance. Thus, one of the methods to keep and improve the performance of MSME to be maximal is through entrepreneurship orientation in the form of innovative, proactive and readiness in taking the risk.

H5: Business Strategy has a direct and significant positive influence on the Performance of MSME. Business strategy has a positive influence on the performance of MSME with the path coefficient of 0.3483 and t statistics of 2.6955 greater than t table (1.960) and significant or $p \leq 0.05\%$. These results are in accordance with the information obtained in the field. In achieving the performance requires the implementation of an appropriate business strategy. The reason is that appropriate business strategy will give guidance to the implementation of various activities which will give positive effect to the improvement of performance of the MSME.

CONCLUSION

The research results on MSME in the furniture processing industry and Ikat weaving industry in Timor Tengah Utara (TTU) District have interesting results in observing the general condition of business in Indonesia. The economic situation that forces people to start their own business has created a thriving economic climate and micro, small and medium-scale business in Indonesia proves to be a strong economic support against various domestic and abroad economic fluctuations. One of the evidence is the economic crisis of 1998 in Indonesia when many big companies and banks went bankrupt, small businesses were still running and developing as a nation's hope in improving its economy at that time. Therefore, improvement is needed for a better entrepreneurship and easier access to the resources. Education and training that are provided by the government in developing the business actors will be useful to improve their business. This can be done by building the business network from various creative thinking processes to support the performance and competitiveness in Indonesia. The research is still very limited due to the business field of the respondents covering only furniture processing industry and Ikat weaving industry. Therefore, the future research is expected to have more diverse respondent characteristics with a large number and types of micro, small and medium-scale business in Indonesia ranging from manufacturing industry, service, or other creative businesses.

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THE BUDGET ANALYSIS OF THE REGION'S DEVELOPMENT TRENDS

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ABSTRACT
Financial basis of state authorities and local self-governments in the social and economic development is the country's budget system. The budgetary policy planning, first of all should take into account attention to ensuring financial and social stability. One of the components of the budget system of the Russian Federation is the local budget. The main purpose of the local budget is to accumulate financial resources that come from various sources eliminating management. This article is an analysis of the Vladivostok City's structure and dynamics of revenues and expenditures of the budget for the period of 2014-2016.

KEY WORDS
Municipal budget, budget process, budget revenues, budget expenditures, deficit, surplus.

The purpose of budgets is variously referred to as financial plans, work plans or programs, or political and social documents. In its strictest, most technical sense, a budget is a document containing words and figures that propose expenditures for certain items and purposes. The words describe items of expenditure or purposes and figures are attached to each item or purpose. The budget has also been defined as a process consisting of a series of activities relating expenditures to a set of goals, or as a process through which public expenditures are undertaken. While considerations of revenue constraints and taxation are inherent in the budget process, within the context of parliamentary work, budgeting is generally treated as part of the expenditure process, rather than as a revenue raising process. In this respect, public budgeting serves as the allocation of expenditures among different purposes so as to achieve the greatest results. A budget can be viewed from various frames of reference. These are:

• *Political process - competition among various groups for limited resources.* The allocation of the budget is a key instrument for government to promote economic development efficiently. The budget allocation process is a political issue, and understanding the institutional and political context in which budget decisions are made and implemented is critical for achieving better outcomes. The national budget is a representation, in monetary terms, of governmental activity. The budget serves as a tool for government activities towards the achievement of its priorities.

• *Economic process - resource allocation.* The budget is the most important economic instrument of the government, as it reflects the country's socio-economic policy priorities by translating priorities and political commitments into expenditures. In this way, the budget emphasizes constraints and trade-offs in policy choices. Government budgets play an essential role in the planning and control of the economic activities of a nation. Three central economic functions of the government budget are:

• *Allocation of resources.* This function relates to the provision of public goods and services by the government. All the goods and services in a country are produced either by government, by the various economic sectors in that society, and by household sectors. In allocating resources, government must decide both the relative size of public service provision, as well as how available resources are divided among the various government functions e.g. social development, health, and defense, policies and programs. Allocations to

certain functions, policies and programs might benefit some groups, particularly vulnerable groups, more than others. Analysis of the budget seeks to uncover the allocation consequences of budgets.

Distribution of income and wealth budgetary policy can be used to attempt to redress inequalities in income and wealth distribution. The government's concern could relate to inequalities between various groups and sectors of society. Budgets are premised on the assumption that a 'fair' and equitable distribution between all groups of society is an important goal. Stabilization of the economy Government budgets are used to promote a certain level of employment, stability in prices, economic growth, environmental sustainability and external balance. Stabilization policy requires economic, political, and social judgments in determining, for example, which objective has priority at any one time, as well as what the acceptable levels of unemployment, debt, and interest rates are, and so forth. Budgetary policy can encourage sustainable economic growth through the planning potential of the budget. In addition, government budgets are both a means of ensuring that governments are accountable to Parliament for their revenues and expenditures; as well as a measure by which governments can maintain control over their finances. Budget analysis requires an understanding of the macroeconomic constraints, assumptions and theories that underpin the budget. The budget itself is a means to achieve objectives. Therefore, the first task in drawing up budgets is to determine objectives and the policies that are likely to achieve these objectives. Budgets should follow policy, rather than vice versa.

Budget analysis is a thorough and detailed review of the budget. It involves the collection, study and interpretation of budget data, the correlation of budget data to other relevant information such as State policies and programs, and the establishment of findings and results. Its aim is to provide analysis and information that is credible, accessible, and makes a timely contribution to policy debates, with the purpose of affecting the manner in which budget issues are decided and decisions are made. Budget analysis is undertaken through a number of perspectives. Some groups assess financial arrangements covering national and sub-national goals. The effects of budget decisions on programs that affect vulnerable sectors, while others study the relationship of spending for one function against another (for example, military spending or debt service compared with economic development). Still others analyze budget process issues, policies and institutions. Other groups undertake budget analysis through a very technical lens; this includes classifying expenditures by major and minor headings (function or nature of expense), looking at budget figures, studying new allocation items, and understanding the government's development plans as expressed by budgetary allocations. Getting started on budget analysis involves a four-step process.

Budget analysis requires an understanding of public administration processes. This is essential in order to have a proper perspective on why events unfold as they do, and to provide the best possible analysis of budgets and budget requests. In conducting a budget analysis, it is important to understand the programs of the department or agency, and the processes involved in carrying out the department's mission, and how they relate to other government functions. It is also important to know how to effectively communicate detailed information, which in many instances is perceived as negative feedback. The budget process or budgeting refers to the process by which governments create and approve a budget. This implies that when crafting the overall budget authorities take a medium-term (three years) outlook. The forthcoming year is the official budget year, while the two outer-years serve as baselines or indicators for the upcoming budgets. In summary, Parliament votes only on the forthcoming year not the two outer years.

The budget cycle comprises the major events involved in making decisions about the budget, and implementing and assessing those decisions. The specific characteristics of the budget cycle differ from country to country. Generally, the budget cycle is likely to have four stages. Many different and individual decisions have to be made at many different levels. National government must decide how much of the share of nationally raised revenue is allocated to national, provincial and local government. National, provincial and local governments must each decide how to divide their budgets between different departments.

Within departments, decisions are made on how much is spent on different programs. These events go through the various cycles of the budget process.

The traditional approach to budgeting is that it is done on an annual basis. Such an approach has the potential to isolate the budget cycle from macroeconomic factors, expectations on future revenue, the long-term needs of programs and government's spending priorities. Any approach to budgeting which has the achievement of efficiency, fiscal discipline and operational efficiency as important objectives would follow a multi-year budgeting approach. In a multi-year budgeting approach, the current financial year informs the budgetary decisions for the upcoming budget year, and the estimates of the budget year provide an indication of longer term estimates for the outer years.

In many countries a significant share of government expenditures is managed through special procedures. These special arrangements include: revolving funds to provide more flexibility in government spending, notably to overcome the annual rule; trading funds for departmental enterprises and other commercial services rendered by the government; emergency funds; special funds for specific expenditure purpose s[such as road funds, health funds] managed at the sector level; expenditures financed by external loans; counterpart funds; budgets of autonomous/decentralized agencies, notably in the higher-education and health sectors; and special accounts managed by the Ministry of Finance or its Treasury Department.

In 2014, the total non-tax revenues share is 49.5%. This indicator is higher than the share of non-tax revenues. 28.4% of budget revenues come from taxes on profits, which are of paramount importance for the growth of all tax revenues, 12.1% contribute taxes to property on a common basis, they also play a big role. The least of all tax revenues are the State duty and taxes on goods. Among non-tax revenues, a larger amount of funds is made from the use of property in state and municipal ownership, which account for 10.8% [7]. In the budget of Vladivostok, 5.6% yield revenues from the sale of tangible and intangible assets.

Among non-tax revenues, small amounts of funds fall on payments that are paid using natural resources and other non-tax revenues. Among gratuitous receipts in the budget in the greater volume the incomes arriving in the form of 30% of gratuitous receipts from other budgets are charged. It can be seen that the budget of Vladivostok city district fundamental types of revenues in 2014 were tax revenues and gratuitous receipts, which are part of, or 29.8% of total revenues [1].Fundamental incomes in Vladivostok are taxes on profits, b repayments from other budgets budgetary system of the Russian Federation. Also great weight is the tax on property and income from the use of property in state and municipal ownership.

In 2015, the same uncompensated receipts from other budgets and income taxes, as well as property taxes and income from the use of property in state and municipal ownership, were the basic revenues of the Vladivostok urban district budget. However, there were changes in the total weight of incomes. Tax revenues, which are almost half of budget revenues, slightly decreased its rate amounted to 49.3%. Non-tax revenues, on the contrary, increased their share in the total amount of budget revenues, having increased in comparison with the previous period and amounted to 20.9%. Gratuitous receipts as well as tax revenues decreased in specific weight, by 0.1%.

Thus, tax revenues continued to play a major role in the replenishment of the city's budget. Among tax revenues, income taxes increased in their specific weight by 1.3%. All other tax revenues reduced their share. The second most profitable tax revenue, property tax suffered a decline of 0.9%. The main income among non-tax revenues, income from the use of property in state and municipal ownership, fell this year by 0.2% and amounted to 10.6%. Revenues from the sale of tangible and intangible assets increased their share. Among gratuitous receipts, gratuitous receipts from other budgets decreased in their specific weight by 0.1%.

In 2016, the situation was not radically changed. However, now it has become, so more than half of the volume of funds began to be occupied by non-tax revenues. Their share was 53.1%. The share of non-tax revenues decreased to 19% compared with two last year's

periods. Gratuitous income also decreased in percentage terms. Their decrease was 2%, this decline in gratuitous revenues is the biggest in two years. Among tax revenues, income taxes in 2016 amounted to the highest value, amounting to 31%, and for the entire period this tax has constantly increased its share. Despite the decrease in the share of property tax in 2015, it increased its share by 1.7% and brought 12.9% of revenues to the budget of Vladivostok urban district, which is higher than the rates of the previous two periods. As for non-repayable receipts, they continued to decline after the decrease in gratuitous revenues from other budgets, which declined in three years to 27.8%. Revenues from the sale of tangible and intangible assets gained the highest share in 2015. A large share of gratuitous revenues took place in 2014, and in 2016 it was the lowest.

Income taxes, property taxes and the tax on aggregate income also had the lowest in 2015 and the highest in 2016. Non-tax revenues, on the contrary, had the largest share in 2015 and the lowest in 2016. But the income from the use of property located in state and municipal property had the highest share in 2014. So, the largest share of tax revenues was in 2016, non-tax income was in 2015, and gratuitous proceeds in 2014.

In 2015, the tax revenues received in the Vladivostok city budget exceeded the previous year indicator by 12.7% in the amount of 665 million rubles. Due to increasing all tax revenues, except for arrears and recalculations for canceled taxes, fees and other mandatory payments. Taxes on profit, increasing by 558 million rubles to 18.6%, had the largest increase. Taxes on property increased 65.9 million rubles, while taxes on aggregate income increased by 26.5 million, state duty increased by 9%, but the least of all increased taxes on goods sold in the territory of the Russian Federation in the amount of 2.7 million rubles.

The growth of non-tax revenues in this period amounted to 15.6%, which in monetary terms amounted to 338.9 million rubles. This was the receipt of income in excess of the previous period of all incomes, except for other non-tax revenues. 130.8 million rubles is the largest increase in the proceeds from income from the use of property in state and municipal ownership. The sale income is from the tangible and intangible assets and is increased by 117.4 million. The largest percentage ratio increase was 44.5% of revenues from the paid services provision and compensation for state expenses. On the contrary, other non-tax revenues received an amount reduced by 7.5%

The situation has been changed in 2016 for non-tax revenues and donations. Tax revenues, however, again brought in the amount that exceeded the indicator of 2015. This time the difference was 671 million rubles, which is higher than the previous year. As before, taxes on profits had the highest absolute deviation from all tax revenues, but it was 10.6% lower than the previous year's figure. Taxes in this period brought income increased by 257.2 million, which is significantly higher than in 2015. The same trend has a tax on aggregate income. Taxes on goods increased by 63.3%, on the contrary, the revenue from state duty was lower by 14.4%.

Non-tax revenues brought in 2016 funds that were lower than in the previous world by 151.6 million rubles and higher than in 2014. The size of the decline was 6.1%. This was due to lower non-tax income indicators, with the exception of others and fines. The largest decrease in income from the sale of tangible and intangible assets, amounting to 113.4 million rubles, as well as income from the provision of paid services and state compensation equal to 48.4%.

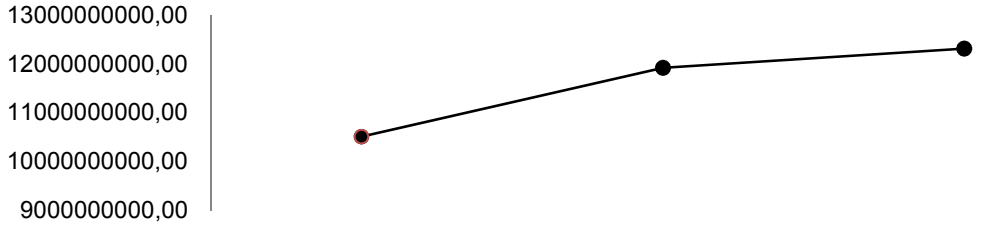

Figure 1 – Income budget flow, Vladivostok region (2014-2016)

It is showed a clear tendency to increase the key figure. Every year, the number of funds coming to the budget in the form of revenues gained weight. This indicates a positive trend in revenue growth budget Vladivostok urban district. The revenues of the Russian Federation budget system from the budgets return of the remnants of subsidies, subventions and other transfers that have a designated purpose, of the past years decreased by 37%. This is a record percentage increase for the entire period among all budget revenues of the Vladivostok urban district. Tax revenues had a larger increase in income in 2016 due to the growth of income tax, property tax, the tax on aggregate income and taxes on goods sold on the territory of the Russian Federation. Due to budget constraints, it is necessary to distribute the collected revenues efficiently and optimally [8]. In 2014 in Vladivostok city district a large share of funds was spent on education. It reached half of all budget funds spent without 3.1%. Also, the Vladivostok budget is aimed at spending the national economy, which amounted to 16.3%. State-wide issues demanded 14.6% of expenditures, 12.9% for housing and communal services, and 3.9% spent on servicing state and municipal debt. For health this year, funds were not spent. The least money spent on environmental protection, namely 0.04%. National security and law enforcement, physical culture and sports, culture and cinematography, as well as social policy were no more than 1.5%.

In 2015, as in the previous period, education accounted for a large share of expenditures. However, its share fell to 46.5%. Expenditures on the national economy also declined, but by 0.6%. The share of national issues in the amount of 0.1% has decreased. State expenditures amounted to 14.5%, which is also lower than the previous indicator. Expenditure on housing and communal services, on the contrary, this year increased its share to 13.5%. Environmental protection, with a smaller share of funds, had a slight increase. The service of state and municipal debt, culture and cinematography, and social policy also increased.

In 2016, the situation was not radically changed. The structure of expenditure still looked so that funding for education clearly prevailed [15]. However, during the whole period, the specific gravity decreased. It amounted to 46.3%, thereby decreasing by 0.6% as compared to 2014, and 0.2% by 2015. Expenditures on the national economy amounted to 16.4%, which is higher than in the previous two periods. Also increased and exceeded the performance of the past two years, the costs of solving national problems. Housing and communal services, which accounted for a lower indicator than in the past, fell by 2% compared to 2015, when the indicator was the largest; this decrease is the highest in all areas of expenditure.

Thus, for the period 2014-2016, a significant share in the budget expenditures is the expenditure used for the education sector. They make up the bulk of the funds and reach almost half of the funds. Also, budget expenditures are mainly directed to the national economy, national issues and housing and communal services. This suggests that budget expenditures have a socio-economic focus, which positively affects the development of the social infrastructure of society [11].

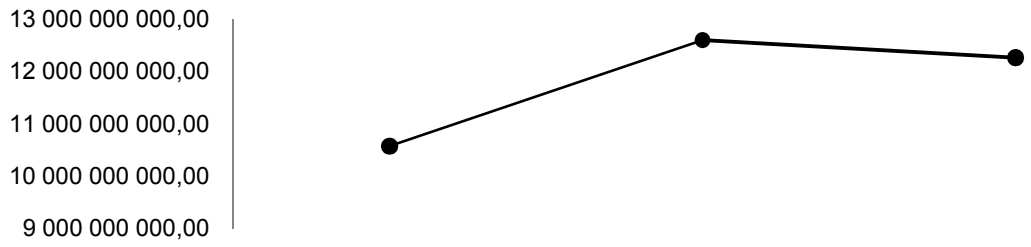

Figure 2 – Expenditures budget flow, Vladivostok region (2014-2016)

The budget expenditures of the city of Vladivostok in 2015 increased compared to the previous year, but the following year this trend changed and expenditures were reduced. Vladivostok City District allocated budget funds for solving problems related to the state

infrastructure more comprehensive development of the district. The very development of the district depends on the state of education, health, culture, physical culture and sports, business environment, housing and the environment.

In 2015, the budget expenditures of Vladivostok urban district increased by 2.02 billion rubles, which reached 19.1%. The greatest growth was in the sphere of education. Expenses for them were increased in the amount of 902.2 million rubles, which amounted to 18.1%. This year, expenditures for housing and communal services are increased by 345.2 million. Expenditures on national issues are increased by 18.6%, and expenditures on the national economy - in the amount of 14.9%. The protection of the environment, which uses the lowest sums of money in Vladivostok, increased 123% in this period. This is the highest percentage increase, but the amount was only 5.6 million rubles.

In 2016, the situation with the amount of spending was changed. Expenditures of the budget decreased compared to last year's period by 332.7 million rubles. There was a decrease in the expenditure direction itself, the sphere of education by 181.8 million, which amounted to 3.1%. For a large amount of money, expenditures on housing and communal services decreased when, as last time, they had the second largest increase. The highest decrease is 17.5% [14].

In conclusion, the revenue base of the district is replenished mainly due to tax revenues, as well as gratuitous receipts. The main taxes yielding income were income tax, property tax, as well as income from the use of property in state and municipal ownership and gratuitous income from other budgets of the budgetary system of the Russian Federation. The main areas of expenditure for the Vladivostok city district budget were education, the national economy, national issues and housing and communal services.

As a result of budget execution, the Vladivostok City District managed to break out of the budget deficit, due to exceeding budget revenues that increased in volume, over expenditures that were otherwise reduced. This situation developed in 2016. This year not only managed to get rid of the deficit, but also to achieve a budget surplus. All this speaks about the effectiveness of the budgetary policy of the district.

Despite the fact that the Vladivostok city district does not include the number of central cities in Russia, but it has a powerful and developed economy, as well as a huge economic potential. Vladivostok is a city that is full of boundless opportunities for development, and this can and should be used.

Moreover, for today Vladivostok is becoming a new center of the modern economy of the Asia-Pacific region and in the future a number of large projects will be implemented, as a result of which there will be even more potential for the development of Vladivostok urban district.

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THE INFLUENCE OF INFORMATION SYSTEM QUALITY ON THE ORGANIZATION PERFORMANCE: A MODIFICATION OF TECHNOLOGY-BASED INFORMATION SYSTEM ACCEPTANCE AND SUCCESS MODEL

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ABSTRACT
This study aims to examine the effect of information system quality on technology-based accounting information systems usage and their impact on organizational performance on local government. This study is based on Technology Acceptance Model (TAM), IS Success Model, and the success of technology-based information systems. This study is a combination of previous studies conducted by Seddon and Kiew (1997), Saeed and Helm (2008), and DeLone and McLean (1992). This study used survey method and took 101 respondents from accounting staff working in Malang and Mojokerto regencies. This study uses Partial Least Square to examine research data. Research result exhibits information system qualities affecting benefit perception and user satisfaction. Technology-based accounting information systems usage in local government is influenced by benefits perception and user satisfaction. Research result concluded that technology-based accounting information systems usage will affect the performance of local government organizations.

KEY WORDS
Organization performance, system usage, Technology Acceptance Model, IS Success Model.

Technology is growing rapidly, especially in information and communication fields. This development is also seen in accounting field exhibited in the emergence of technology based accounting information system (AIS).

This study raises the behavioral issue of technology-based accounting information systems usage in local governments. A technology-based Accounting Information System aids accounting staff at local government in the process of developing Local Government Financial Statements. The accounting staff in charge inputs organization transaction data which then would be processed by the application, therefore produce output in the form of financial statements. The information in these financial statements can be used by top managers in a decision-making process.

Technology-based accounting information system will certainly affect the workforce in accounting field. The use of AIS applications is expected to improve the performance of the accounting field which would indirectly improve the overall organization performance. However, according to Usnodo (2010), about 70% of information systems failed to be applied due to behavioral aspects issue.

This study uses 3 models as the basis of its research, namely TAM (Davis et al, 1989), IS Success Model (DeLone and McLean, 1992), as well as technology-based information systems acceptance and success model (Baridwan, 2012).

Building a technology-based accounting information system requires huge investment. Mistakes in choosing or applying AIS applications will cause a material loss especially to a government organization (local government). Therefore, identifying the determinants on acceptance of information technology becomes essential to develop information system therefore high investment in IT facilities becomes useful and valuable for the organization. To avoid losses due to AIS application failure, local governments need tools to evaluate their success.

This study is an amalgamation of three previous studies by DeLone and McLean (1992); Seddon and Kiew (1997); and Saeed and Helm (2008). The first study was DeLone and McLean research (1992) on the success model of technology-based information systems. The second study was Seddon and Kiew research (1997) that reviewed the DeLone and McLean information systems success model. This study examines the relationship between five variables, system quality, information quality, usefulness, user satisfaction, and importance of the system. A third study by Saeed and Helm (2008) examined the effect of information system characteristics and beneficiary perceptions on the use of post-adoption information systems. Based on these three studies, there are five variables tested in this study, namely information system qualities, benefit perception, user satisfaction, system usage, and organizational performance.

In the previous research models DeLone and McLean's success of information systems model were widely used to examine private companies. On the other hand, this study examined public sector organizations in East Java Province.

LITERATURE REVIEW

Technology based accounting information system. The accounting information system (AIS) is a system that collects, records, stores, and processes data into useful information in assisting decision-making processes (Romney and Steinbart, 2012: 30). AIS helps managers to gain information which is used as a basis for organization's strategic decision-making process. Technology-based AIS can help organizations to improve their performance.

Technology Acceptance Model (TAM) is model used to analyze and understand the factors affecting acceptance of computer technology usage which was developed by Davis et al (1989). The TAM model, developed based on psychological theory, describes computer user behavior based on belief, attitude, intention, and user behavior relationship. The purpose of this model is to explain the main factors of user behavior on technology users acceptance.

The DeLone and McLean Information Systems Success Model (IS Success Model). This model was developed by DeLone and McLean in 1992 based on a causal relationship process of six dimensions consisting of system quality, information quality, usage, user satisfaction, individual impact and organizational impact. The IS Success Model does not independently measure these dimensions but measures them as a whole. This model is a parsimony model, therefore, this model is useful to test and analyze the success of information systems in organizations that applied information technology.

Technology-Based Information System Acceptance and Success Model. This model is the result of Baridwan's study (2012). This model is a combination of Unified Theory of Acceptance and Use Of Technology (UTAUT), and Information System Success Model. There are eight constructs in this model: performance expectations, business expectations, social influences, facilitating conditions, age, interest in behavior, user behavior, and organizational performance. Age is a moderating variable in social influence on individual behavior interests using technology-based accounting information system. This model explains that the implementation of technology-based accounting information systems received by individuals will be successful and have a positive impact on organizational performance if the system is easy to operate, existing social influences, and the existence of adequate supporting facilities.

Research Method and Hypothesis. Information system quality describes desired quality of an information system (DeLone and McLean in Livari 2005). The information system quality construct is defined by the IS Success Model developed by Delone and McLean (1992). Furthermore, DeLone and McLean information system success model was improved by Seddon and Kiew in 1997 by connecting system quality and information quality variable on benefit perception. Several other studies (Kim & Lee, 2014, Ali & Younes, 2013, Hsueh-Ying Wu et al, 2010, Saeed & Helm, 2008) also stated that there is a positive relationship between information system qualities and benefit perception.

H_1: Information system qualities positively affects the perception of benefits.

In addition to benefit perception, user satisfaction is an important factor in the application of technology-based information systems. Based on DeLone and McLean is success model, there is a relationship between information system qualities with user satisfaction. In several studies such as DeLone and McLean (1992), Seddon and Kiew (1997), Choga et al (2014), Kim and Lee (2014), Peter et al. (2008), DeLone and McLean (2003) discussed the relationship between information system qualities and user satisfaction.

H_2: Information system qualities has a positive effect on user satisfaction.

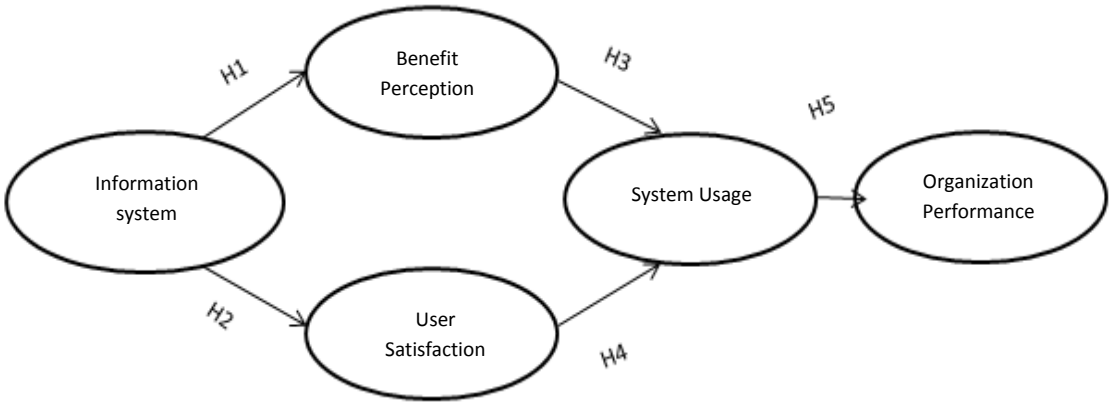

Figure 1 – Research Model

Benefit Perception is the level of user trust using a particular system which improves its performance (Davis 1989). Davis' research (1989) has predicted that benefit perception as the most powerful predictive variable in information system usages. Several other studies (Adams et al, 1992, Kim & Lee, 2014, Saeed & Helm, 2008; Venkatesh et al., 2003; Masseti & Zmud, 1996) also suggest that there is a positive relationship between benefit perception and the system usage.

H_3: Benefit perception positively affects information system usages.

User satisfaction is defined as user confidence level in information system used to be able to meet the need for information (Baroudi, 1983). In previous researches, end user satisfaction and system usage are often used as key variables in evaluating information systems success rate (Iqbaria and Tan 1997). Several other studies (DeLone & McLean, 1992; Igbaria & Tan, 1997; Bokhari, 2005; Kim & Lee, 2014; Peter et al. 2008; livary; 2005; Hollsaple & Lee-post, 2006) suggest that there is a positive relationship between user satisfaction and system usage.

H_4: User satisfaction positively affects information system usage.

System usage is one of the key variables in most theoretical frameworks in the information technology research literature. The system usage reflects the success of system application itself. The system usage will have an impact on the organization. Organizational impact or other terms of organizational performance is the result of the behavioral use of technology-based AIS by individuals within the organization (DeLone and McLean, 1992 and 2003). Wang and Liao's research (2008) provide empirical evidence based on their research that the use of technology-based systems affects organization performance. Another study supporting this statement is Baridwan (2012), D & M (1992), Roldan and Leal (2003), Peter and McLean (2009), Hollsaple and Lee-Post (2006), Urbach et al. (2010), DeLone and McLean's research (2003).

H_5: Information system usages has a positive effect on organization performance.

METHODS OF RESEARCH

Sample. The sample used in this study were 159 accounting staffs working in Malang and Mojokerto, Indonesia. The researcher submitted the research questionnaire by direct survey method and by mail. Data collection was conducted from September to October 2017.

Procedure. Sampling method used is convenience sampling. Convenience sampling method is a sampling technique where researchers freely select sample (Hartono, 2015: 98). The reason for selecting convenience sampling method is to facilitate sampling conducted by the researcher. Researcher collect sample data by proportional division for 3 respondents at each SKPD.

Measurement and research instruments. The indicators and question items of quality system information constructs are taken from Livari (2005) and Baridwan research (2012) as much as 7 items. The construct of perceived benefit perception was 4 from Venkatesh et al (2000) and Davis et al. research (1989). The user satisfaction construct consists of 4 indicators taken from Weber's research (1999) and the questionnaire used was adopted from Doll and Torkzadeh research (1988). The system usage consists of 3 indicators was taken from Livari (2005), Baridwan (2012), Seddon and Kiew research (1997). The perceived organizational performance consists of 3 indicators taken from Roldan and Leal (2003), and Baridwan's research (2012). Each indicator is measured by drawing a Likert scale of 1 (one) to 7 (seven). 1 = strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = neutral, 5 = somewhat agree, 6 = agree, 7 = strongly agree.

RESULTS OF STUDY

Based on survey results, the majority of respondents are male (54%) with an average age of 20 to 30 years (50%). Most respondents work experience was more than 3 years (51%) and experience using technology-based system between 2-5 years (48%).

The loading factor value of all constructs is greater than 0.7 and the value of AVE and communality is more than 0.5. Therefore it can be concluded that the constructs and indicators in this study have met the convergence validity test. Table 2 exhibits that construct possessing higher AVE root value than the latent variable correlation value means that all constructs have met the discriminant validity test. All constructs have also met the reliability test with a value of Cronbach's alpha over 0.6 and a composite reliability value greater than 0.7.

Table 1 – Factor and Model Assessment Analysis Result

Construct	Item	Original Sample	T Statistic	AVE	Communality	Cronbach Alpha	Composite Reliability
Information System Quality (ISQ)	ISQ1	0,7968	32,6397	0,6437	0,6437	0,9086	0,9266
	ISQ2	0,8343	45,5244				
	ISQ3	0,8162	44,9584				
	ISQ4	0,8495	52,8033				
	ISQ5	0,7596	27,7248				
	ISQ6	0,7908	52,6298				
	ISQ7	0,7646	41,1024				
Benefit Perception (BP)	BP1	0,8697	72,9044	0,6723	0,6723	0,8356	0,8908
	BP2	0,8864	84,6973				
	BP3	0,7828	43,1055				
	BP4	0,7308	27,6047				
User Satisfaction (US)	US1	0,9451	112,4563	0,7672	0,7672	0,8972	0,9289
	US2	0,9592	171,695				
	US3	0,8079	19,1746				
	US4	0,7766	44,1639				
System Usage (SU)	SU1	0,8888	87,9882	0,7444	0,7444	0,8295	0,8971
	SU2	0,8057	35,985				
	SU3	0,8911	61,0369				
Organization Performance (OP)	OP1	0,915	102,5189	0,7543	0,7543	0,8352	0,9017
	OP2	0,8985	71,4178				
	OP3	0,7864	30,8663				

The hypothesis could be accepted should sample original value or beta (β) is positive and its t-statistic is greater than 1.64. Hypothesis 1 was accepted since there is a positive correlation between information system quality with benefit perception with beta value (β) is

positive equal to 0,4076 and T-statistic value equal to 7,5923. Hypothesis 2 which states there is a positive relationship between information system qualities with user satisfaction is accepted with positive beta value (β) at 0,3849 and the value of T-statistic is 9,3957. Hypothesis 3 which states there is a positive relationship between benefit perception and system usage is also accepted with the positive beta value (β) at 0,4593 and T-statistic value of 10,2251. Hypothesis 4 is also accepted with positive beta value (β) equal to 0,2198 and value of T-statistic equal to 4,6635 which indicates existing positive relationship between user satisfaction and system usage. Hypothesis 5 was accepted with positive beta value (β) equal to 0,4968 and value of T-statistic perception benefit construct to system usage equal to 14,906.

Table 2 – AVE Root and correlation of latent variables

Construct		Akar AVE	1	2	3	4	5
1	Information System Quality	0,8023	1	0	0	0	0
2	Benefit Perception	0,8199	0,4076	1	0	0	0
3	User Satisfaction	0,8759	0,3849	0,5935	1	0	0
4	System Usage	0,8628	0,504	0,5898	0,4925	1	0
5	Organization Performance	0,8685	0,4118	0,5809	0,8749	0,4968	1

Table 3 – Hypothesis Examination Result

Hypothesis	Construct	*Original Sample*	*T Statistics*	*Decision*
H1	Information System Quality - > Benefit Perception	0,4076	7,5923	Accepted
H2	Information System Quality -> User Satisfaction	0,3849	9,3957	Accepted
H3	Benefit Perception -> System Usage	0,4593	10,2251	Accepted
H4	User Satisfaction -> System Usage	0,2198	4,6635	Accepted
H5	System Usage -> Organization Performance	0,4968	14,906	Accepted

DISCUSSION OF RESULTS

This study examines the effect of information system quality on technology-based accounting information systems usage and their impact on the performance of local government organizations. Based on hypothesis assessment result, every hypothesis in this research was accepted. This research adopted three previous models: TAM (Davis et al, 1989), IS Success Model (DeLone and McLean, 1992), and Technology-Based Information System Acceptance and Success Model (Baridwan, 2012).

The first hypothesis in this study states that information system qualities positively affect benefit perception in using technology-based accounting information systems. These results indicate that the better information system qualities in technology-based accounting information systems is considered more useful for its users. This study supports previous studies conducted by Seddon and Kiew (1997), Kim and Lee (2014), Ali and Younes (2013), Saeed and Helm (2008) and Hsueh-Ying Wu, et al. (2010). The results of this study state that information system qualities have a positive effect on user satisfaction. This study supports previous studies by Livari (2005), Hollsaple and Lee-Post (2006), Kim and Lee (2014), Choga and Nyaruwata (2014) and Peter et al. (2008). The results of this study support previous studies conducted by Adams et al. (1992) using TAM basic theories. Adams et al research (1992) stated that there is a positive relationship between benefit perception and system usage. Other studies that also support this study are Saeed and Helm (2008), Kim & Lee (2014), Davis (1989), Venkatesh et al. (2003), and Massetti & Zmud researchs(1996).

Research result concluded that user satisfaction has a positive effect on system usage. These results are supported by previous studies conducted by Igbaria and Tan (1997), Bokhari (2005), DeLone and McLean (1992), Kim and Lee (2014), Peter et al. (2008), livary (2005), Hollsaple and Lee-post (2006). The results of this study also state that there is a positive relationship between the use of system with organizational performance. These results support the results of previous research conducted by Petter and McLean (2009),

Lee-Post (2009), Urbach et al. (2010), DeLone and McLean (2003), Wang and Liao (2008) and Baridwan (2012).

Implications of research. This study has two implications, namely theoretical implications and practical implications. The theoretical implications of this research that this research result can support the theory used which are TAM, IS Success Model, and the Technology-Based Information System Acceptance and Success Models (Baridwan, 2012). The practical implications indicates that this study can be used as a reference in planning and development of technology-based information systems on local government related to behavioral aspect.

CONCLUSION

This study aims to examine the effect of information system quality on technology-based accounting information systems usage and their impact on organizational performance on local government. The survey process was conducted in two ways, by giving directly to the respondents through hardcopy and send letters by mail to respondents whose location could not be reached by the researcher. Total respondents in this study were 101 respondents.

This study used three models as the basis of its research, TAM (Davis et al 1989), IS Success Model (DeLone and McLean, 1992), and a technology-based information systems acceptance and success model (Baridwan, 2012). The results of this study support these three models.

Research result indicate that information system qualities affect benefit perception and user satisfaction positively in using technology-based accounting information systems in local government. Technology-based accounting information systems usage in local government is influenced by benefit perception and user satisfaction on the system itself. High usage level in using accounting software will increase the intensity of actual system usage. If the user is satisfied while using a technology-based AIS, it would increase the system usage. It could be concluded that the technology based accounting information system usage has a positive effect on the performance of local government organizations.

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DETERMINANTS OF ENSURING OF THE AGRO-INDUSTRIAL ENTERPRISES' ECONOMIC SECURITY

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ABSTRACT
The article explores theoretical approaches to determining the essence of the category of economic security of an enterprise. Approaches to the definition of the essence of economic security - strategic, resource-functional, market, competitive, harmonized, protective, deductive, systemic and criminal. The system of economic security of the enterprise is considered as part of the management system aimed at countering external and internal threats to the functioning of the enterprise. A comprehensive approach was developed, within which the structure of the enterprise's economic security system was formed. The components of the economic security system are the subjects of the system, resources, the organizational and legal basis for the construction and functioning of the economic security system, the mechanisms for managing the system, the mechanisms for strategic interaction, technologies, methods and means for ensuring economic security. In order to assess threats and counteract them, it is suggested to conduct diagnostics with the definition of the aggregate criterion of the impact of a threat on the economic security of an enterprise.

KEY WORDS
Enterprise, economic security, resources, risk, threat, strategy, counteraction, danger.

The economic security of enterprise has an important meaning since it is characteristic of the enterprise ability to effective activity, development, economic stability and competitiveness. As a result, the goal of the research is working out an integrated approach to provide enterprises with economic security and tools to achieve it.

While researching evolution of theoretical approaches to an entity of the enterprise economic security, it is revealed that security was considered as ensuring the conditions of storage of a trade secret in papers of the 90th [3,8,9]. There's also another approach interpreting economic security as the condition of the enterprise which provides its ability to resist influencing of adverse factors. A significant number of interpretations of this category testifies that justification of the theoretical and methodical process is unaccomplished. Based on this, we have identified approaches to the definition of the essence of economic security.

Proceeding from it we have singled out approaches to determination of entity of an economic security, which are strategic – a condition of the enterprise security from internal and external threats [5]; resource and functional – an effective usage of resources or potential and allocation of its functional components; market – an effective usage of resources to provide market development of the enterprise [7]; competitive – a presence of the competitive advantages [6]; harmonized – an achievement of proportionality and coordination of the characteristics system elements; protective – a protection of the enterprise economic interests; deductive – a condition of the enterprises free from disturbance; system – an ensuring of safety, balance and stability of the enterprise; penal – a protection from economic crimes.

Having analyzed approaches we can note that most of them reflect several directions: the first one - "protective" - is based on usage of the concept if threat, the second - "resource and functional" – is an effective usage of resources and potential, the third - "profitable" – is a getting a profit. The most used directions are protective and resource and functional. This usage is caused by understanding of an economic security as a condition of being protected from threats, and understanding of resource ensuring as a condition of functioning and a base for ensuring of economic security.

Consequently, economic security is a condition of enterprise developing, which guarantees and provides the most effective usage and development of resources of all types and components of potential that promotes stability of economic and financial development, effectiveness of neutralization, prevention and counteraction to internal and external factors with the purpose of achievement of a strategic mission.

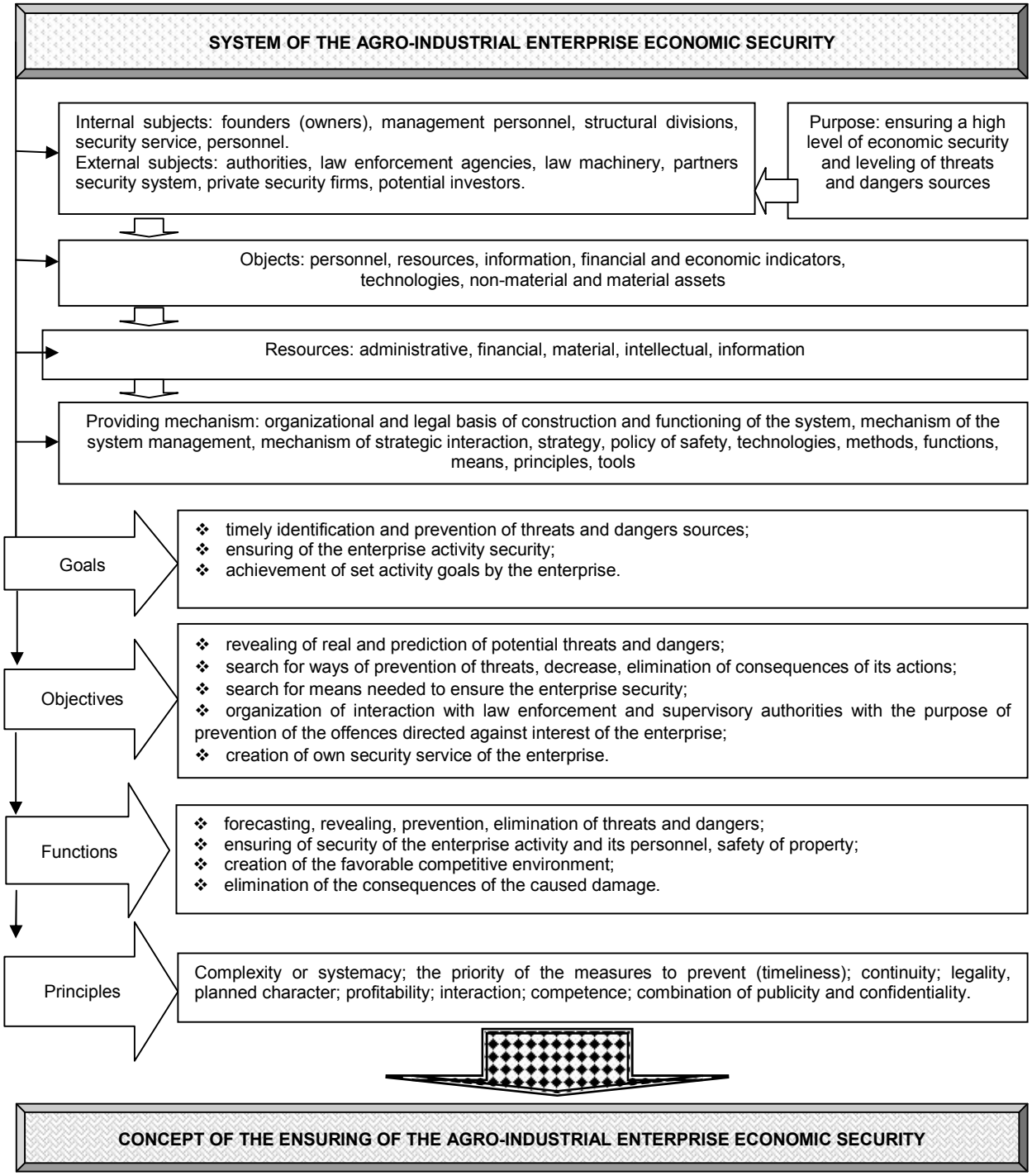

Figure 1 – System of the agro-industrial enterprise economic security

In the era of an informational economy the ensuring of economic security of the enterprise is needed by means of management that demands creation of own security system to revelation and prevention of threats, ensuring achievement of the goals of activity [1,2,8]. The system approach is based on the principle of integrity of an object that is a

research of the economic security properties as whole [4]. Existence of such properties is caused by result of emergence a synergetic connection between elements. This connection provides an effect which is bigger than the sum of the effects of the elements functioning independently of each other. Creation of the system is carried out due to structure of correlations between components. Therefore the system of economic security is considered as a part of the management system, directed to counteraction to external and internal threats to the enterprise functioning (fig. 1).

Structural components of economic security system are subjects of the system, resources, legal and institutional framework of organization and functioning of the economic security system, mechanisms of system management, and mechanisms of strategic interaction, technologies, methods and means of ensuring of economic security.

The system of the economic security includes an internal component (core), external component (outline of economic security). The internal component is ability of the enterprise to organize its internal structure and internal relations so it could as much as possible ensure its own economic security. The internal components are financial; production and technological; rational land use; intellectual and personnel; marketing; power. The external component reflects ability to organize external interaction so it could ensure protection against threats, fulfill possibilities of the security level increase. The external components are interfacing; innovative and technological; institutional and legal; raw and power; ecological.

The enterprise economic security system must constantly expect for threat signals from external and internal environment and response adequately to them. Thus the enterprise economic security system can be considered as organized set of interconnected elements of the external and internal enterprise security, integration of the functional subsystems aimed at providing of the achievement of the enterprise interests, as well as providing of the enterprise functioning in conditions of unstable external and internal environment. The economic security system is designed according to the developed policy and strategy of security ensuring. With the purpose of the analysis of threats and their counteraction [10] it is expedient to carry out diagnostics that includes an estimation order, qualitative and quantitative criteria of estimation of probability of threat approach and size of the destabilizing influence (loss), qualitative and quantitative criteria for the cumulative expected criterion of the threat influence on economic security (f.1):

$$I = \frac{K_{e1}(P_1 \times D_1) + K_{e2}(P_2 \times D_2) + \cdots + K_{en}(P_n \times D_n)}{G} \qquad (1)$$

I - the cumulative expected criterion of the threat influence on economic security, with a scale: 0,01-0,20 – insignificant threat; 0,21-0,50 – moderate threat; 0,51-0,80 – significant threat; 0,81-0,1 – dangerous threat; K_{ei} – weight coefficient of the expert opinion from 1 to 0, sum of all weight coefficient = 1.

$$\sum_{i=1}^{n} Kei = 1 \qquad (2)$$

P_i – probability of threat approach: 0,1-0,15 – improbable threat, 0,16-0,99 – potential threat, 1 – real threat; D_i – possible destabilization influence: 1 – minor damage, 2 – moderate damage, 3 – significant damage, 4 – destructive damage; G – number of experts.

Calculating of integrated quality and quantity index of security and its comparison with planned and standard allows forming a conclusion about efficiency of realization of the developed economic security system. The creation of the enterprise economic security system is a process of strategic management that considers threats and risks and develops mechanisms of counteraction. Thus the enterprise economic security is defined by condition of security if the systems at implementation economic activity; by a condition of resources and enterprises abilities; by a set of methods with organizational and legal, regime and security, technical, technological, economic, financial and information and analytical character; by a condition of social and technological system that allows avoiding threats and resisting to disorganization factors by means of the structural organization management connections. The purpose of economic security is guaranteeing stable and the most effective

functioning, economic growth, exclusion of opportunities of receiving losses, their prevention and counteraction to their influence.

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DETECTION OF STATISTICAL REGULARITIES OF THE RUSSIAN ECONOMY DEVELOPMENT

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ABSTRACT
Science-based approaches to effective forecasting and planning aimed at minimizing all threats in the socio-economic sphere should be developed in order to increase the contribution to Russia's economic security and the welfare of the country. Studies concerning the meaningful social and economic processes, developing and evolving over time, can help to identify the general patterns of our country's socio-economic development. The purpose of the article is to formulate equations of the analytical dependence of various indicators for forecasting the development of the Russian economy in the future. The methodology used in the study is based on the plotting of chained and basic characteristics of time series, the calculation of mean characteristics of time series, the forecasting of indicators based on chain substitutions, and the trend. The result of the study is the plotting of trend lines for average monthly salaries, per capita cash incomes and inflation rate in the country. On the basis of the results obtained, the main threats to Russia's economic security were identified.

KEY WORDS
Economic security, trend, trend model, threats, development.

«The State Strategy of Economic Security of the Russian Federation» enacted by the Decree of the President of the Russian Federation of May 13, 2017 states: «It is practically impossible to solve any of the tasks facing the country, both domestic and international, without ensuring economic security» [1].

Economic security of the country is the security of economic relations that determine the progressive development of the country's economic potential, improve the well-being of all members in the society and its different social groups, and form the foundations for the nation's defense capabilities.

Effective economic security system is the guarantee of the existence of any country, especially today's Russia, which seeks to take a distinguished position in the world's geopolitical and economic space. The current state of the Russian economy experiencing a second wave of the crisis, which started back in 2008 and has been fueled by the sanctions imposed by Western countries, shows a mix of economic instability signs that indicate problems in the real sector of the economy. The main indicators of instability include a decline in the ruble rate in 2015 by almost a half in comparison with 2014, a decrease in the total consumer demand for many goods and services, and the resulting drop in the living standards of the population, a downturn of small and medium-sized business, and a growing number of bankrupt enterprises [2, 3]. Continuing geopolitical tensions, a possibility of new sanctions, and risks of changes in "rules of the game" by the Russian side are perceived by investors as a major source of additional threats. Foreign and Russian investors' interest in the attractiveness of the Russian economy is rapidly going down.

Solving the task of ensuring security largely depends on the state's purposeful activities to formulate a proper social and economic development strategy. There is, therefore, a pressing need for valuable analytical knowledge, allowing for adequate assessment of the current situation and making an effective decision.

LITERATURE REVIEW

Systematic study of academic literature on this issue has revealed a significant number of works of scholars and practitioners. The study of the economic security problem is widely reflected in many scholarly writings of Vorozhbit O., Korneyko O., Burkaltseva D.D., Vorobyov Y., Blazhevich O.G., Frolova E.E., Puhart A.A., and others [4-12]. For example, Senchagov V.K. believes that the main tools for ensuring a secure environment for the development of the Russian economy are “diagnostic assessment and monitoring of the level of threats to the national interests of the country in the field of economics” [13]. Moreover, the major part of further work on the formation of measures aimed at preventing and overcoming such threats is in the monitoring process with which it is possible to identify threats to the security of the Russian economy.

The purpose of the article is to formulate equations of the analytical dependence of various indicators for forecasting the development of the Russian economy in the future. The methodology used in the study is based on the plotting of chained and basic characteristics of time series, the calculation of the mean characteristics of time series, the forecasting of indicators based on chain substitutions, and the trend.

DISCUSSION OF THE RESULTS

Today’s Russia is committed to creating a systematic mechanism for monitoring and assessing the level of threats to the social and economic security of the state. The following parameters are monitored: cash flows of expenses and incomes; changes in the poverty rate; demographic data; indicators of civilian employment and social protection data.

The primary mechanism for integrated monitoring can be considered to be the use of formalized algorithms developed based on mathematical models using the available socio-economic indicators of relations in said area, instead of traditional intuitive analysis and expert methods [14].

Number of factors that can affect the studied processes regularly increase amid their sufficiently significant differentiation.

The Center for Financial and Banking Studies of Economics Institute used 150 basic indicators for security analysis. The differences of these indicators from other indicators of economic and social activities are that they are able to quantify the economic threats to the state security [13].

Senchagov V.K. suggested using the method of systematizing indicators in the sphere of development of socio-economic systems of the state using the following parameters: sphere of the real economy; demographic indicators; social sphere of the state; external sector of the state; monetary and financial sphere; environmental indicators; area of regional economy; criminal sphere.

The scientist notes that this list of indicators can only be approximate because it should be regularly clarified.

It would also be interesting to focus this study primarily on social and economic indicators of development which include: indicators of dynamic changes in financial incomes of citizens; differentiation of income change indicators in the level of remuneration received; indicators of the ratio of monetary remuneration in calculating the minimum standard of living per capita on average; indicators of wages and the remuneration; indicators of consumption capacity and purchasing power of citizens; indicators of state social assistance for citizens; statistics of growth on the retail market; population employment indicators; data on the provision of citizens with the necessary social services.

The dynamic changes of indicators in the sphere of social and economic development can be clearly demonstrated by plotting trend lines on the graphs which can be shown in the form of the following diagrams (Figures 1–3). The equation of the line, which is a trend model of the required function, will have the form indicated inside each figure. This functional dependence is based on the plotting of chained and basic characteristics of time series, the calculation of the mean characteristics of time series, the forecasting of indicators based on

chain substitutions, and the trend [6]. Since the graphical representation of the basic data is close to a straight line, the work uses the linear trend equation for analytical smoothing, we used the linear trend equation for analytical smoothing:

$$\hat{y}_t = a + b \cdot t \qquad (1)$$

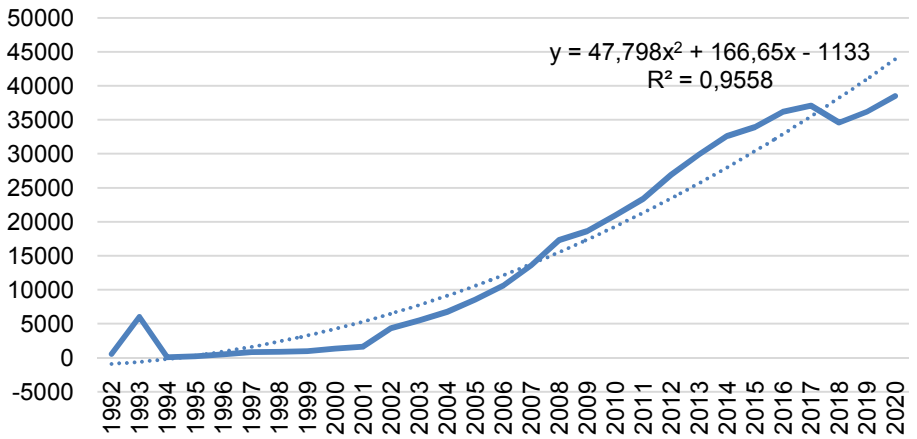

Figure 1 – Dynamics of the average monthly salary in the Russian Federation

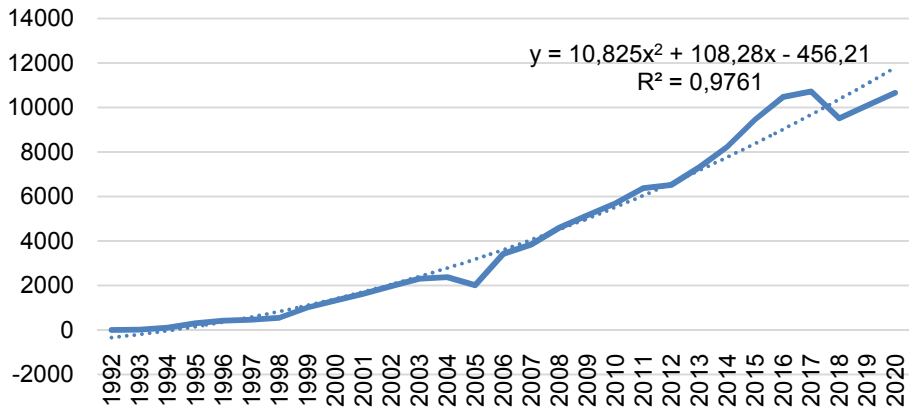

Figure 2 – Dynamics of the minimum subsistence in the Russian Federation

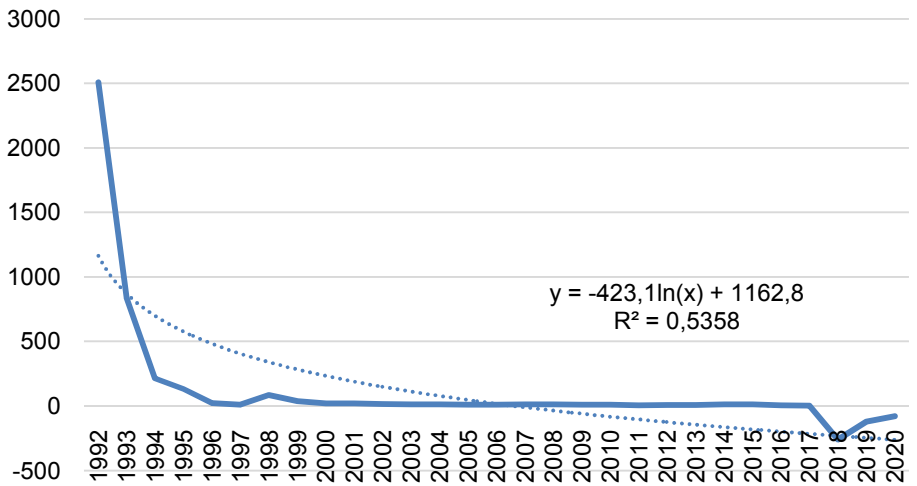

Figure 3 – Dynamics of inflation rates in Russia

The average error of approximation can change its value to 15%, and this indicates a well-functioning model of the equation. Using these equations, it is possible to obtain the expected values of the indicators with sufficiently high probability.

CONCLUSION

The presented diagrams demonstrate the dynamic changes in the average monthly payroll and average per capita financial income for the last 15 years. As we can see, it is obvious that the average value of the approximation error does not yield more than 0.5%, which indicates the adequacy of the application of these models and the complete reliability of the obtained indicators during the calculation of the expected budget for the period 2018–2020. The resulting function increases, and this makes it possible to talk about favorable changes in the parameters of citizens' actual income.

The data on the inflation indices of the Russian Federation for the years 2000 to 2015 show a more sensitive reaction to changes in the socio-economic sector that occur under the influence of some internal and external factors.

At the time of the study of statistical data on inflation indices, the error value of approximation shows 16.6%, and the resulting equation line can only be used with extreme caution to continue the study.

The threats to economic security, in our opinion, can be classified according to their actual impact: the first class of threats has characteristics with a high level of influence and serious economic consequences, for the prevention of which it is necessary to conduct additional comprehensive measures; the second class of threats is characterized by an average level of influence and consequences, for the prevention of which some comprehensive measures are required to be conducted; the third class of threats has a low level of influence and consequences, for the prevention of which preventive measures are sufficient.

It becomes possible to develop effective measures of state policy to address real and perceived threats to economic security by obtaining certain determinants for various security indicators.

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THE PUBLIC SECTOR AUDIT EXPECTATIONS GAP IN INDONESIA: PAPUA PROVINCE

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ABSTRACT
This study aims to examine the opinions of public sector auditors with the perceptions of users of financial statements on audited reports in Papua province. The population in this study is the external auditor of the public sector represented by BPK, the users of the financial statements represented by the DPR, Local Government (Pemda), and the Community (Accounting Students, KAP) existing in Jayapura City of Papua Province. Sampling method using survey method with sampling tool changed the questionnaire that spread in four categories of respondents.

KEY WORDS
Expectation Gap, accountability, audit concepts, users of financial statements.

Public sector audit currently assessed by the government is not transparent to the public regarding the actual financial condition. The vulnerability is the misuse of funds in the public sector so that strict rules and independent audits are required to audit the financial statements of government agencies. Audit of the public sector is very important, it is a form of responsibility of central and local governments to account for funds that have been used by an agency. The public also has the right to be able to know the allocation of the use of funds whether it has been implemented according to existing procedures and standards or not.

Good governance is characterized by three main pillars which are the interrelated elementary elements (Prajogo, 2001), namely; participation, transparency and accountability. Good governance must open the door as wide as possible so that all parties involved in the government can participate. The Supreme Audit Agency or Badan Pemeriksa Keuangan (BPK) as the external auditor and state institution having a constitutional mandate to investigate or audit the responsibility of state financial management by the government, including local government (Pemda).

Community participation is a manifestation of the demands of public accountability and regional autonomy. Problems with accountability can occur if local governments do not present a financial statement information that is relevant, reliable, and understandable to the community as its constituency (Mahmudi, 2007). The Govermental Accounting Standards Board (GASB) in Concepts Statement No.1 on Objectives of Financial Reporting states that; accountability is the basis of financial reporting in government. The financial statements published by the local government should be fairly presented free from material misstatements so as not to mislead the users of the financial statements.

The expectations of the users of the audit financial statements often go beyond the roles and responsibilities of the auditor. The high public demand for auditor professionalism leads to the large expectation gap (Yeni, 2000). Guy and Sullivan (1988) argue that differences in public expectations and auditors can lead to several things, including: (1) fraud detection and illegal acts, (2) improving the effectiveness of audits, (3) communicating more intensive audit results to the public and committees audit.

Research on the expectation gap in the public sector in Indonesia, especially in the region of Papua is still very rarely studied. Broad regional autonomy is given to regional governments in order to improve the efficiency, effectiveness, and accountability of local governments that are ultimately expected to achieve good governanc. So the researcher wishes to investigate whether or not there is an expectation gap between external auditors

and users of financial statements in Papua Province, especially Jayapura city and district in the midst of special autonomy that is underway in local government to be studied.

This study will review and further examine the existence of an expectation gap in the users of local government financial statements and external auditors on the roles and responsibilities of government auditors in Papua Province. To provide empirical evidence whether there is an audit expectation gap between BPK and users of local financial statements seen in terms of accountability, materiality, audit evidence, opinions (Free From Bias And Dishonesty), integrity, and objectivity.

LITERATURE REVIEW

Expectation Gap. Ligio in Yuliati (2007), defines the first expectation gap as the difference between the levels of expected performance "as envisioned by the independent accountant and the user of financial statements". He defines an audit expectation gap as an expected difference as has been witnessed by users of a financial statement and an independent accountant. Porter (1993) argues that the expectation gap is the gap between society's expectations of auditors and auditors' performance, as perceived by society. Porter then explains the gap between public expectations of auditors and auditor performance perceived by the public. From this definition we can draw a conclusion of expectation gap as a difference between the expectations of the public on the work of the auditor with the results by the auditor.

Prior research provides empirical evidence of the existence of an expectation gap from some previous research, Porter (1993) in Pongsapan (2008) divides the components of the expectation gap including: (1) reasonable Gap, ie the difference between what is expected by the public to be achieved by the auditor and what is most likely to be achieved by the auditor, and (2) Gap performance, ie the difference between what the public expects most likely to be achieved by the auditor and what the auditor feels can be achieved.

The government auditor in performing the audit is not only for the interest of the client (Government), but the parties concerned to the audited financial statements. As explained by Mardiasmo (2005) the users of government financial statements are: Tax Payer, Grantors, Investors, Fee-paying Service Recipients, Employees, Vendors, Legislative, Management, watchdog Halim (2003) describes the external parties of Local Government as the users of the local government financial statements are: DPRD (Regional People's Legislative Assembly), Financial Supervisory Board, Investors, Creditors, and Donors, Economic Analysis and Observer of Local Government, Other Regional Government.

Accountability Theory. Public accountability according to Mahmudi (2007) is the government's obligation to manage resources, report and disclose all activities and activities relating to users of public resources to mandate (principal). Similarly, Mardiasmo (2005) explains in the context of governmental organizations that public accountability is the provision of information and disclosure of activities and financial performance of the government to the parties concerned with the report. Meanwhile, according to the United Nations Development Program (UNDP), accountability is an evaluation of the implementation process of organizational activities to be accountable and as feedback for the leadership of the organization to be able to further improve organizational performance in the future.

Materiality Theory. The Financial Accounting Standards Board (FASB) defines materiality as a misstatement of financial information by taking account of the situation, causing considerations made by those who rely on such information to be altered or affected by the misstatement. While Jones and Bates (1990), mentioned the materiality of the audit related to audit needs to consider the level of guarantee implied by the user group being audited and the expected reactions and readers of the audit report. Audit evidence relates to time and cost in the audit process, the scope of the audit and the perceived user information needs affect the process of gathering evidence.

Audit Evidence Theory. Mulyadi (1998) defines audit evidence as supporting information presented in the financial statements, which can be used by the auditor as a basis for expressing his opinion. Audit evidence supporting the financial statements consists

of accounting and corroborating information data available to the auditor. Arens (2000) define audit evidence "as any information used by the auditor to determine whether the information being audited has been declared in accordance with established criteria".

Free From Bias and Dishonesty Theory. Fair opinions in public sector audits have the same meaning in private sector audits (Chowdhury et al., 2005). The fair opinion in the audit report in Indonesia implies that the financial statements presented are in conformity with the Prinsip Akuntansi Berterima Umum (PABU). While performance audits, only applicable to the public sector which emphasizes the efficiency and effectiveness of the operation and effectiveness of the results achieved. Sarjono (2012) Opinion is a professional statement as the examiner's conclusion about the fairness of the information presented in the financial statements. According to the professional standards of accountants (PSA 29), the audit opinion consists of five types, namely: (1) Unqualified Opinion, (2) Unqualified Opinion with modified unqualified opinion, (3) Opinion fair with qualified opinion, (4) Opinion Opinion, (5) Opinion does not give opinion (Disclaimer of opinion).

Integrity Theory. Section 100 in Standards of Public Accountant Profession (SPAP) issued by IAI describes Integrity, that is to be straightforward and honest in all professional and business relation. Rogers and Shoemaker (1971), stated that integrity is the degree to which the source or channel of communication is deemed to be reliably believed and competent by the recipient objectively. While Goodwin (1999), mentioned integrity in evalusai as high or low associated with evidence provided by the source evidence. Jenny also examined the auditor's sensitivity to the integrity of evidence sources. Joyce and Biddle (1981) found that auditors should be sensitive to the objectivity of evidence. While Hirst (1994) found that interaction between competence and objectivity is a significant factor only when competence is high.

Objectivity Theory. The Section 100 Standards of Public Accountant Profession (SPAP) issued in the IAI explains objectivity of not allowing bias, conflict of interest, or undue influence from others, which may exclude professional or business judgment. Wibowo (2006) explains that auditors demonstrate professional objectivity at the highest level when collecting, evaluating, and reporting on information on the activity or process being tested. In addition, the definition of objectivity according to Rahayu and Suhayati (2009) is to be free from conflict of interest and should not allow material misstatement.

Research Hypotheses. Considering about the previous literates, we have six hypotehses:

H1: An audit expectation gap between BPK auditors and the users of local financial reports in terms of accountability.

H2: An audit expectation gap between BPK auditors and the users of local financial reports in terms of materiality.

H3: An audit of the expectation gap between BPK auditors and the users of the local financial statements in terms of audit evidence.

H4: An audit expectation gap between BPK auditors and the users of local financial statements in terms of the opinion of the fair (free from bias and dishonesty).

H5: An audit expectation gap between BPK auditors and the users of local financial reports in terms of integrity.

H6: An audit expectation gap between BPK auditors and the users of local financial statements in terms of objectivity.

METHODS OF RESEARCH

The location of this study was conducted in Papua Province with the consideration that there is no research looking at the expectation gap between BPK auditors and users of local financial reports in Papua Province, while this is considered very important to know for the sake of improving local finances in the future. Sampling method and data adopted in this research is Purposive sampling method. Purposive sampling according Sugiyono (2009) is a technique in determining the sample with certain considerations. Margono (2004), said in choosing a group of subjects in purposive sampling should be based on certain

characteristics that are considered closely related to the criteria for the sample unit to be used for research purposes itself. In detail the respondents of this study are as follows:

1. The Government Auditor of this research population is the auditor at the VIII BPK-RI Representative in Jayapura.

2. User financial report of sector auditor, Government is:

a. Members of the Regional People's Legislative Assembly (DPRD) consist of: DPRD Provinsi Papua, DPRD Kota Jayapura, DPRD of Keerom Regency, Regency of Jayapura Regency, which is commissioned by Commission XI, covering work task finance, national development plan, banking and finance bureau.

b. Echelon 2, echelon 3, echelon 4, and inspectorate officials, to local government (Pemda).

c. The community, which consists of student academics, especially accounting students, NGOs.

Reliability test (Pearson Correllation Product Moment) questionnaire data in this research is used to know a measuring tool free from bias, so as to give consistent measurement result between time and item in an instrument.

Validity test (KMO-MSA) data in this research is used to know and can provide information ability of an instrument in expressing object which become measurement in research, becoming instrument of research. The declared item is invalid, then the item of the statement can not be used in subsequent tests. The questionnaire is said to be valid if a question in the questionnaire can be able to reveal something that will be measured by the questionnaire (Danang, 2009).

Homogeneity test of questionnaire data in this research is used to find out whether the measured score variance in both samples have the same variance or not. Populations with the same variance are called populations with homogeneous variance, whereas populations of unequal variance are called populations with heterogeneous variance.

Hypothesis test in this research tested using Independent Samples by SPSS 22.0. Independent Samples T Test is a type of statistical test used to compare the average of two groups or groups of non-paired and related data. Unpaired groups can mean that research is done for two different sample subjects, or using independent data.

RESULTS AND DISCUSSION

The hypothesis in this study will be tested using independent samples t-test tool, which is to test two mean differences (average) of data coming from 2 (two) independent. Independent samples test is a special form of statistical analysis in experimental studies. The t test for the data variant is used using the Polled Varians formula. The test equipment used a significant level of 0.05: 2 = 0.025 (2-sided test) the results obtained for t table amounted to 1,976 as the benchmark value. The value of t-count <t-table and significance value <0.05 means that the hypothesis is accepted statistically (there is an expectation gap), whereas t-value> t-table and its significance> 0.05 means the hypothesis is statistically rejected (no expectation gap).

Accountability(H1). The result of statistical test of Independent samples test on the first hypothesis (H1) which states there is audit expectation gap between BPK auditors with the user of local financial report in terms of accountability can be seen through the table 1.

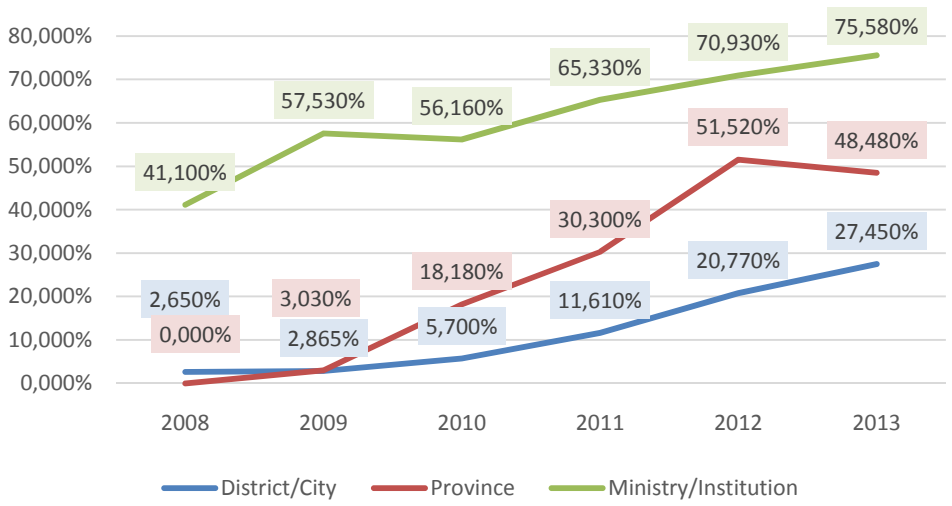
Table 1 – Independent samples test (Accountability)

Variable		T-test for Equality of Means						
		t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
							Lower	Upper
Accountability	Equal variances assumed	2.422	148	0.157	1.344	0.946	0.524	3.213
	Equal variances not assumed	2.350	103.821	0.180	1.344	0.996	0.631	3.320

Testing results of the first hypothesis (H1) in the test table Independent samples test above shows the value of 2.422 with a value of significance value of 0.157. This result means that with t-count> t-table (2,422> 1,976) and sig 0.157> 0.05 the hypothesis (H1) is statistically rejected. The results of this statistical test can be concluded which is also the answer to the first problem that there is no audit expectation gap between BPK auditor with user of local financial report represented by Local Government, DPR, and society / student from accountability side in Papua province.

The result of this research is also in line with previous research done by Yandi (2013) in Jambi city by obtaining same result, ie no audit expectation gap between auditor and user of financial report from accountability side. This finding is not in line with the research conducted by Rusliyawati (2007) who conducted the same study using accountability variables in Pontianak (West Kalimantan) who found an audit expectation gap between auditors and users of financial statements.

These findings reinforce Mardiasmo (2005) opinion which states in the context of governmental organizations, public accountability is the provision of information and disclosure of activities and financial performance of government to the parties concerned with the report. Also reinforced by data obtained from BPKP Papua province which stated opinion of unqualified opinion or Wajar Tanpa Pengecualian (WTP) by BPK on LK K / L / Pemda Year 2008 - 2013 shows improvement of accountability quality of financial reporting as seen in following graph.



Graph 1 – Unqualified Opinion (WTP) by BPK

The graph above shows the opinion of WTP from BPK, where there is an increase in the quality of government financial report. Increase in WTP opinion, or the quality of accountability of state financial reporting, is best at K / L level, then followed at the provincial government level in Papua and the last at district / municipal level. The performance of BPK RI representatives of Papua province itself as the external auditor of the government in the province of Papua has been working properly and provide local financial statements that have been audited or have been checked to the public to parties who need the financial statements. The transparency of the use of the budget can be accessed by the parties in need, accompanied by the role of local government to report accountability of the use of local budget (APBD) at each SKPD (Satuan Kerja Devan Daerah) in Jayapura and Papua provinces.

Materiality (H2). The second hypothesis (H2) which states Audit expectation gap between the auditors BPK with the users of local financial reports in terms of materiality can not be continued to the analysis phase, because in reliability testing by using Pearson's Correlation Product Moment, done previously considered unreliable. The second hypothesis (H2) that is materiality is not considered reliable because the answers of respondents in each

population are inconsistent and unstable from question one to the next question, so it can be concluded that the second problem question can not be analyzed the answer.

Audit Evidence (H3). Independent test samples test results of hypothesis three (H3) which states that the audit expectation gap between BPK auditors with the users of local financial statements viewed from the side of audit evidence, the results can be seen through the following table.

Table 2 – Independent samples test (Audit Evidence)

Variable		T-test for Equality of Means						
		t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
							Lower	Upper
Audit evidence	Equal variances assumed	1.225	148.000	0.000	3.117	2.544	8.144	1.911
	Equal variances not assumed	1.447	113.754	0.000	3.117	2.154	7.385	1.151

Testing results of the first hypothesis (H3) in the above table shows the value of t-count 1.225 with a significance value of 0.000. This result means that with t-count value <t-table (1.225 <1.976) and sig value 0.000 <0.005 then hypothesis (H3) is accepted statistically. So that the result of this statistical test can be concluded which is also the answer to the third problem that there is audit expectation gap between BPK auditor with user of regional financial report represented by Local Government, DPR, and society / student from side of audit evidence in Papua province.

The findings of this study in accordance with previous research conducted by Yandi (2013) in the city of Jambi obtained the same results that there is audit expectation gap between auditors with users of financial statements from the side of audit evidence. Audit expectation gap between auditors and users of financial statements occurs from the side of audit evidence in Papua province, according to the researchers as a result of weak local financial management.

The results of this study are not in accordance with Mulyadi (1998) opinion which states that all information supporting the figures or other information presented in the financial statements, which can be used by the auditor as the basis for expressing his opinion. Caused in the provinces of Papua and Jayapura city there is still a lot of evidence of liability that is not submitted to BPK. Lack of accountability evidence not submitted to BPK, thus making BPK difficult to do this examination submitted by Frederik (2015), but the CPC still issued an opinion PAPs in LKPD Jayapura city and Papua province in fiscal year 2015. So that impact on society dissatisfaction of financial report from side of objectivity.

Free from bias and Dishonesty (H4). The result of statistic test Independent samples test on the fourth hypothesis (H4) which states that there is audit expectation gap between BPK auditor with the user of local financial report from free side bias and dishonesty, can be seen through table below.

Table 3 – Independent samples test (Free from bias and Dishonesty)

Variable		T-test for Equality of Means						
		t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
							Lower	Upper
Free from bias and dishonesty	Equal variances assumed	1.667	148.000	0.000	2.478	0.029	0.642	3.314
	Equal variances not assumed	1.709	133.278	0.000	2.478	0.014	0.669	3.267

The result of the fourth hypothesis test (H4) in the above table shows the t-count value of 1667 with significant value 0.000. This result means that with t-count value <t-table value (1,667 <1.976) and significant value 0.000 <0.05, then hypothesis (H4) is accepted statistically. The results of this statistical test can be concluded which is also the answer to

the fourth problem that there is an audit expectation gap between BPK auditors with users of local financial statements represented by the Regional Government, the House of Representatives, and the community / student from the opinion side of the fair (free from bias and dishonesty) audit in province of Papua.

This research is in line with previous research conducted by Rusliyawati (2007) in Pontianak city, West Kalimantan province got the same result, that is audit audit gap between auditor with user of financial report from free side bias and dishonesty in city Pontianak, however, contrary to the research conducted by Yandi (2013) who conducted the same research using the free of bias and dishonesty in Jambi area found that there is no audit expectation gap between the auditor and the users of the financial statements.

The findings of this study are not in accordance with the Standards of Public Accountant Profession (SPAP) 2011, and the State Finance Regulatory Standard (SPKN) 2017, used by BPK by adopting the General Accounting Principles (PABU) in giving opinion. Public expectations as users of audited financial statements with the results provided by BPK on the opinion of the unqualified oponion (WTP) (Unqualified) in LKPD Provinsi Papua FY 2015 is not appropriate, so the result of this study there is an indication of audit expectation gap.

Integrity (H5). The result of statistical test of Independent samples test to the fifth hypothesis (H5) which states that the audit expectation gap between BPK auditors with the users of local financial statements in terms of integrity, can be seen through the table below.

Table 4 – Independent samples test (Integrity)

Variable		T-test for Equality of Means						
		t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
							Lower	Upper
Integrity	Equal variances assumed	1.218	148.000	0.003	2.339	0.054	2.255	4.423
	Equal variances not assumed	1.277	137.231	0.002	2.339	0.027	2.308	4.370

Testing results of the first hypothesis (H5) in the table above shows the value of t-count of 1.218 with a significance value of 0.003. This result means that with t-count value <t-table value (1.218 <1.976) and sig value 0.003 <0.05, then hypothesis (H5) is accepted statistically. The result of this independent test samples test can be concluded which is also the answer to the fifth problem that there is audit expectation gap between BPK auditor with user of local financial report represented by Local Government, DPR and community / student from integrity side in Papua province.

Although the findings of this study are inappropriate and inconsistent with the 10-point Section of the Public Accounting Standards (SPAP) on integrity issued by the IAI are inconsistent with what is happening in the provinces of Papua and Jayapura, but in line with research conducted by Nyoman (2016) found that integrity influenced moderate the effect of positive expecation gap on acceptable auditor performance. The difference of understanding or expectation gap on the integrity of the auditor according to the researcher is because the auditor still lack understanding of the integrity ethics listed in SPAP section 10, so the public judge this not yet according to their wishes as the user as well as observer of the government's financial report.

Objectivity (H6). The result of the independent test samples test on the sixth hypothesis (H6) which states that the audit expectation gap between the BPK auditors with the users of local financial statements viewed from the side of objectivity, can be seen in table 5.

Testing results of the first hypothesis (H6) in the above table shows the t-count value of 3.559 with a significance value of 0.001. This result means that with t-count value <t-table value (1.559 <1.976) and sig value 0.001 <0.005 then hypothesis (H6) is accepted statistically. The result of this independent test samples test can be concluded which is also the answer to the sixth problem that there is audit expectation gap between BPK auditor with

user of local financial report represented by Local Government, DPR and community / student from objectivity side in Papua province.

Table 5 – Independent samples test (Objectivity)

Variable		T-test for Equality of Means						
		t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
							Lower	Upper
Objectivity	Equal variances assumed	1.559	148.000	0.001	2.406	0.676	1.070	3.741
	Equal variances not assumed	1.661	132.752	0.000	2.406	0.666	1.088	3.723

The presence of an audit expectation gap between the auditor and the users of the local financial statements in the Papua province may provide clues that despite the general declaration stated in the 2007 State Financial Management Standards (SPKN), which states that "In all matters relating to inspection work, examiners and examiners, should be free in the mental attitude and appearance of personal, external, and organizational disturbances that may affect its independence".

SPAP (Professional Standard of Certified Public Accountants) section 120, not in accordance with the reality that occurred, which should declare in the SPKN become a handle by all accountants working in the public sector of Papua province and Jayapura city. Expectation gap occurred on the objectivity side of Papua province and Jayapura city caused by dissatisfaction of society as user as well as observer of financial report to result of audited financial report issued by BPK, this is supported by result of hypothesis test on variable of H3 that is audit evidence. Lack of accountability evidence not submitted to BPK, thus making BPK difficult to do this examination submitted by Frederik (2015), but the CPC still issued an opinion PAPs in LKPD Jayapura city and Papua province in fiscal year 2015. So that impact on society dissatisfaction of financial report from side of objectivity.

CONCLUSION

Based on the results of hypothesis testing that has been done before, and then taken some conclusions which is also an answer to research questions that have been proposed in the previous chapter as follows:

Analysis of hypothesis 1 testing (accountability) can be concluded that there is no audit expectation gap between external auditors of BPK with user of local financial report represented by local government, parliament, and society / student from side of accountability in Papua province.

Hypothesis 2 (materiality) can not be analyzed the answer because in the test reliability found the results are not reliable. The second hypothesis (H2) that is materiality is not considered reliable because the answers of respondents in each population are inconsistent and unstable from one question to the next, so it can be concluded that the second question question can not be analyzed.

Analysis of hypothesis 3 testing (audit evidence) can be concluded that there is an audit expectation gap between BPK's external auditors and users of regional financial reports represented by local government (Pemda), DPR, and community / students from the side of audit evidence in Papua province.

Analysis of hypothesis 4 testing (fair opinion) can be concluded that there is an audit expectation gap between BPK's external auditors with users of local financial statements represented by local governments, parliament, and the public from the free opinion side (dishonesty) of the province of Papua.

Analysis of hypothesis 5 (objectivity) testing can be concluded that there is audit expectation gap between external auditor of BPK with user of local financial report represented by local government, DPR, and society / student from integrity side exist in Papua province.

Analysis of hypothesis 6 (Integrity) testing can be concluded that there is audit expectation gap between external auditor of BPK with user of local financial report represented by local government, DPR, and society from side of objectivity in Papua province.

Based on the results of research, the limitations of research results, then by researchers can provide some suggestions to various parties as follows:

1. The need for further research on the expectation gap of the public sector by including or replacing the variable that has been used or not reliable with other factors that can cause an expectation gap in the financial statements between auditors with users of financial statements in the public sector.

2. This research is only conducted in Jayapura city and Papua provincial office, therefore it is necessary to do the same research in other districts within Papua province, in order to be able to be compared where the regions or districts are still there is difference of perception (gap) between auditors with users of financial statements.

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TREND AND DETERMINANTS OF STRUCTURAL TRANSFORMATION IN NIGERIA'S AGRICULTURE SECTOR

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ABSTRACT
Recently, transformation from farm to non-farm activities has been associated with numerous developing and under-developed economies of the world. This article therefore explores the trend and determinants of structural transformation in Nigeria's agriculture sector. The study employed secondary data, descriptive and inferential statistics to reach its conclusion. While the trend data reveals a declining and increasing share of the agriculture and service sectors in employment respectively, suggesting a glimpse of transformation, the vector error correction model showed that there were no significant determinants of structural transformation in the agriculture sector among the independent variables in the model; thus raising questions as to whether the transformation trend observed was due to chance. While suggesting further work to ascertain the true nature of transformation and to identify its actual determinants, we recommend increased technological change, specialization, enhanced efficiency and improvement of human capital and institutions within Nigeria's agriculture sector to sustain and fully unearth the transformation process.

KEY WORDS
Structural transformation, agriculture sector, service sector, Nigeria, technological change, efficiency, institutions.

Recent dialogues and literature on transformation in Africa have alluded to the slow pace of structural transformation. Badiane (2013) for instance, established that the Gross Domestic Product and the labour share of Agriculture have barely changed over the last 30 years, with noticeable exceptions, being among the North African Countries and to a lesser extent, Central African countries. Labour productivity in agriculture has also stagnated and declined sharply in the non-agriculture sector, while employment had fallen in agriculture and increased rapidly in the non-agriculture sector, driven by service and less by industry. The contribution of structural change to productivity growth has been mainly negative in most regions of the continent, with the exception of West Africa. This was noted to be negative in more than 40 per cent of Africa in the 80s. Todaro and Smith (2012) also argued that international constraints currently limit the transition of developing countries and that if these countries are exposed to opportunities presented by the industrial countries, such as sources of capital, technology and manufactured inputs, as well as market for export they can make the transition faster than those of the industrialized nations. Nigeria implemented the Structural Adjustment Programme in the mid 80s and 90s and a Transformation Agenda recently (2011-2015) and thus, numerous researchers (Oyelaran-Oyeyinka and Ola-David, 2015 and Ariyo and Olaniyan, 2014) have established that Nigeria is undergoing a structural change, having noted changes in the contributions of key sector to the GDP and employment and changes in the structures of the service and industry sectors. However, in-spite of these developments, its position as the largest economy in Africa and the high growth recorded during 2011-2015, which averaged 4.5 per cent per annum, majority of Nigerians remain

under the burden of poverty, inequality and unemployment. General economic performance was also seriously undermined by deplorable infrastructure, corruption and mismanagement of public finances (Federal Republic of Nigeria (Economic Recovery and Growth Plan), 2017). This article, therefore examined the trend of employment share of agriculture and selected sectors (industry and services), that is, trend of and determinants of structural transformation in Nigeria's Agriculture Sector. The article questions the existence of structural transformation in Nigeria's agriculture sector, given its backwardness in several development outcomes and thus, hypothesised that agriculture sector, among other economic variables do not drive structural transformation in Nigeria.

LITERATURE REVIEW

Concepts of Structural Transformation. Mensah *et al,* (2016) noted that the literature on structural transformation is scanty but growing. Kuznets (1955) for instance took a broader look and thus described structural transformation to mean countries' transitions from developing to developed economy. Contributors lately however have been specific; United Nations Conference on Trade and Development (undated) and Page (2012) for instance, equated structural change (structural transformation) to the movement of labour and other productive resources from low productivity to high productivity economic activities or uses. The source noted that structural transformation can be beneficial to the developing countries because of their peculiar structural heterogeneity, which supports few high productivity activities. United Nations Economic Commission for Africa (2016) also discussed structural change in terms of sectoral compositional changes in output or employment in relation to primary, secondary or tertiary activities as economic development proceeds. It however harped on the need for rigorous appreciation of this concept for strategic policy making on transformational processes beyond the understanding of linear progression.

Theoretical Insights. The theoretical models of structural transformation is coached in the two sector theory of Lewis of the 50s, which recognised the existence of the traditional rural and a modern urban sector and the transmission of surplus labour from the former to the latter sector. The theory, later modified, formalised and extended by Fei, Ranis, Jorgenson and others (Todaro and Smith, 2012; Norton *et al*., 2015) has been associated with the recent growth experience of China and labour markets in the other developing countries. The theory is premised on the assumption that the rate of labour transfer and employment creation in the modern sector is proportional to the modern-sector capital formation. Secondly, that surplus labour exists in rural areas while there is full employment in the urban areas and thirdly the notion of a competitive modern sector labour market that guarantees the continued existence of constant real urban wages and lastly, a concern about the occurrence of diminishing returns in the modern industrial sector. However, the best known model of structural change is based largely on the work of Chenery and Colleagues, built on Kuznet's modern economic growth of developed countries. This model identified key characteristic features of development process to include shift from agriculture to industrial production, steady accumulation of physical and human capital, the change in consumer demand to diversified manufactured food, decline in population. The key hypothesis of structural change model is that development is an identifiable process of growth and change whose main feature are similar in all countries. However recently, United Nations Economic Commission for Africa (UNEC) (2016) harped on the need for rigorous appreciation of this concept for strategic policy making on transformational processes beyond the understanding of linear progression.

Structural Transformation in Africa. Employing micro-level data on Uganda, Christiaensen and Kaminski (2015) established heterogeneous and gradual but reversible structural transformation over a five-year period with 13 per cent of population having moved out of agriculture, and an increase in labour market participation. It further affirmed that 60 per cent of micro-level agricultural-non agricultural occupational transformation occurred through non-farm enterprises and self employed jobs while the remaining 40 per cent did so through wage jobs. The studies further observed that welfare changes within and between

occupational categories were mainly channelled through an accumulation of productive assets, especially labour and employment, as well as household capital, rather than any specific increases in factor productivity. While Arbache and Page (2009) affirmed that Africa witnessed only marginal growth in-spite of its rapid growth, McMillan and Rodrik (2011) affirmed that structural change in Africa has moved in the wrong direction since the 1990 and had worked against the leveraging of good jobs, given that labour has moved from higher to lower productivity employment. On these, Page (2012) opined that Africa's slow pace of structural change mainly reflects a failure of its economies to industrialise, increasing dependence on natural resources, shrinking manufacturing sector relative to independence and an infant agro-industry and tradable services. The researcher noted that as Africa lost ground, labour moved from higher to lower productivity employment.

Nature of Structural Transformation in Nigeria. Orya (2013) averred that improvement in governance framework through multi-party democracy since 1999 and purposeful (market) reforms have redefined Nigeria's political, financial and investment hubs. The researcher affirmed that petro dollar provided investment capacity for economic diversification and higher GDP growth rate. The study further noted that Nigeria has the two building blocks for the realisation of structural transformation, that is, the resources and the market. It recommended intra-African trade, capacity building, women empowerment and integration as viable solution towards transformation. Ariyo and Olaniyan (2015) recognised the role of service sector in the emerging structural transformation in Nigeria, but noted that the structure of the Nigerian economy propelled the persistent high level of poverty and inequality. The study harped on the need to consolidate the ensuing gains from transformation in order to promote sustainable development. While, recent literature have alluded to the weak or non diversification of the Nigerian economy, given its import dependence, consumption driven and undiversified nature and the burden of poverty and unemployment (Federal Republic of Nigeria, 2017), Oyelara - Oyeyinka and Ola-David (2015) noted that the manufacturing sector has observed some improvement and that the country is undergoing a structural change of a unique sort; in addition, the proportion of those employed in agriculture has been reducing in recent years, while employment in the service sector has been on the rise. The researcher averred that the share of growth attributable to structural change increased in recent years and surpassed that attributed to within sector changes between 2005 and 2010. Specifically, the contribution of agriculture to GDP has witnessed a decrease to 23.1 per cent with the simultaneous rise in the contribution of the service sector, put at 51 per cent.

Measurement of Structural Transformation and Governance. Numerous measures of structural are evolving, however, United Nations Conference on Trade and Development (UNCTAD) (2016) established three empirical measures of structural transformation as the employment share of sector in total employment, value added by sector in total value added and the export share of sector as per cent of the gross domestic product. It however noted that the last of these measures might be misleading due to the emergence of global value chain, and as an increase in export is likely to be associated with an increase in import, given that firms import intermediary goods the production process which are later re-exported after production ceases. Given the pros and cons of these approaches, this study employed the employment share of the three key sectors (Agriculture, Industry and Services) in total employment as its measure of structural transformation.

METHODS OF RESEARCH

Study Area. Nigeria is an African Country on the Gulf of Guinea and one of the 54 countries in Africa. It consists of about 91 million hectares of land area with a population of about 170 million. It is the most populous country in Africa, largely rural and comprising about 350 ethnic nationalities. The country measures about 1,200 km from east to west and about 1,050 km from north to south, and is bounded by Cameroon to the east, Chad to the northeast, Niger to the north, Benin to the west, and the Gulf of Guinea on the Atlantic Ocean (Figure 1) to the south (Federal Ministry of Agriculture and Rural Development, 2015) . The

federation is made up of 36 States and the Federal Capital Territory, Abuja and 776 Local Government Areas. The economy is predominantly agricultural, with the agriculture sector accounting for 23.1% of the GDP (FMARD, 2015; Federal Republic of Nigeria, 2017), while employing 38% of the working population (Federal Republic of Nigeria, 2017).

However, the country's economy is characterized by structural challenges that limit its ability to sustain growth, create jobs and achieve real poverty reduction (Federal Republic of Nigeria, 2016). The economy is also mono-commodity (oil) based and skewed towards consumption rather than investment, with gross domestic investment to GDP ratio of between 13 and 14 per cent. Though, the GDP rose by 6.3 per cent between 2005 and 2015, the economy entered into a recession with GDP contracting by 0.36 per cent in the first quarter, 2.1 per cent in the second quarter and 2.2 per cent in the third quarter of 2016 (Federal Republic of Nigeria, 2016). Meanwhile, oil and gas sector accounted for only 10 per cent of GDP, represented 94 per cent of export earnings and 62 per cent of government revenues (Federal and State) in 2011-2015. The source further noted that foreign exchange reserves declined from USD32 billion in January 2015 to USD25 billion in November 2016 (from a peak of USD53 billion in 2008). Arising from these developments, naira depreciated sharply, losing almost half of its value against the dollar, while foreign direct investment (FDI) declined sharply from a peak of USD8.9 billion in 2011 to USD3.1 billion in 2015(Federal Republic of Nigeria, 2016).

Sample Size and Data Collection. The study was based on secondary data and spanned 1993 - 2015. Data collected covered agriculture, industry and service sectors share of employment, real government expenditure (proxy for governance), agricultural expenditure, agricultural import and export, agricultural GDP, loan and advances, interest rate and exchange rate. Other data collected were agriculture, service and industrial sectors' contributions to GDP, export share of agriculture sector as percentage of GDP.

Analytical Techniques. Descriptive statistics were employed for the achievement of objectives 1. This involved the generation of mean, standard deviation, graphical analysis to depict trend and coefficient of variation (CoV). The CoV was utilised to ascertain the level of variability of the agriculture, service and industrial sector share of employment. The Augmented Dickey-Fuller (ADF) unit root test was used to identify the order of integration, that is, the number of times a variable needed to be differenced to make it stationary. Co-integration model was employed to determine the long run or equilibrium relationship between variables. The Error Correction Modelling is closely bond with the concept of co-integration (Ama, 2003) and thus, was employed to reconcile the short run and long run behaviours of the economic variables in the model.

Augmented Dickey Fuller (ADF) Test. The initial step in the use of co-integration test is the need to ensure that the data proposed for data analysis are stationary. To this end, the ADF unit root test was employed to determine the order of integration of each variable, that is, the numbers of times a variable will be differenced to make it stationary.

The model was specified as follows:

$$\Delta Y_t = \alpha + \beta_t + \acute{Y}Y_{t-1} + \delta_p \Delta Y_{t-1} \ldots\ldots\ldots + \delta_{p-1}\Delta Y_{t-p+1} + \epsilon_t \qquad (1)$$

Where: Δ = Change Operator; α = Constant; Y_t =Variable series; Y_{t-1} = Past values of variables; t = Time variable; ϵ_t = White noise.

The null hypothesis that $\acute{Y} = 0$ implies the existence of a unit root in yt or that the time series is non-stationary. The three models considered are as follows:

$$\Delta Y_t = \beta_1 + \partial Y_{t-1} + a_i + et \text{ (Intercept only)} \qquad (2)$$
$$\Delta Y_t = \beta_1 + \beta_{2t} + \partial Y_{t-1} + a_i + e_t \text{ (Trend and Intercept)} \qquad (3)$$
$$\Delta Y_t = \partial Y_{t-1} + a_i + e_t \text{ (No intercept)} \qquad (4)$$

Co-integration Test. Economic theory suggests that long run relationship should exist between pair of economic or financial variables. To this end, Ljubljana (2009) noted that the framework of co-integration deals with regression with I(1) data, that is I(1) variables tend to diverge as T approaches infinity because of their unconditional variances. Numerous

researchers further established that if two or more variables are cointegrated, they must obey an equilibrium relationship in the long run (Ama, 2003) although they may diverge substantially from that equilibrium in the short run (Ljubljana, 2009). According to Engle and Granger (1987), co-integration exist when a linear combination of a set of time series is stationary, if it is taken that the individual series are non-stationary. Ama (2003) explained that co-integration of two or more time series infers that long run or equilibrium relationship exist between them. The study further noted that for two variables to be cointegrated, the individual variables must be non-stationary, while there must be a linear combination of the non-stationary variables from a static regression involving levels of the variable which must be stationary.

Specification of the Vector Error Correction Model (VECM). Following the cointegration test, the VECM was employed to ascertain causal influence among non stationary variables and to reveal long run and individual short run relationship between the independent variables modelled and the producer price of rice, which is the dependent variable.

$$\Delta SSE_t = \varphi_1 + \sum_{i=1}^{n} `\beta_{1i}\, \Delta AGDP_{t-1} + \sum_{i=1}^{n} 6_{1i}\, \Delta PoP_{t-1} + \sum_{i=1}^{n} 6_{1i}\, \Delta AExp_{t-1} + \sum_{i=1}^{n} 6_{1i}\, \Delta TGE_{t-1} + \sum_{i=1}^{n} 6_{1i}\, \Delta LAD_{t-1} + \alpha ECT_{t-1} + \varepsilon_t \qquad (7)$$

Where: SSE – Sector share of Employment; AGDP – Agricultural Sector GDP; POP – Population; AEP – Agriculture Sector Expenditure; TGE – Total Government Expenditure (Proxy for governance); LAD – Loan Advances; ECT – Error correction term; Δ – Difference in operator; ε_t is the error term which takes care of other variables that could have structural transformation but not specified in the model, while n is the optimal lag length orders of the variables.

RESULTS AND DISCUSSION

Trend of Employment Share of Agriculture and other Key Sectors of the Economy in Total Employment. The trend of employment share of key sectors (agriculture, industry and services) of the economy from 1991-2015 is presented in figure 1. The figure shows that agriculture's share of employment peaked in 1999, with 49.04% of the total share of employment, while the least of 38.45% was witnessed in 2015. For the service sector, the highest level of employment witnessed was in 2015 with 48.82% and the minimum employment share of 37.99% in 1991. With respect to the industrial sector, the year 1991 witnessed the peak of employment share of 14.13% and a minimum of 11.32% in 2001. Evidence as shown by statistics and the figure shows that employment share of the agriculture sector has been declining, while that of the service sector has been witnessing simultaneous upward growth. On the other hand, the industrial sector had been static, even though, there had been an initial decline in sector share of employment between 1998 and 2009.

The mean sector share of employment is put at 45.25%, 42.50% and 12.24% for the agriculture, service and industrial sectors respectively (Table 1). In addition, the coefficient of variation shows that the service sector has been more volatile put at 9.10%, while the industrial sector witnessed the least volatility, confirming the static nature of the trend. The general picture confirms the outcome of the works of Oyelaran-Oyeyinka and Ola-David, 2015 and Ariyo and Olaniyan, 2014 who established that Nigeria is undergoing a structural change, having noted changes in the contributions of key sector to employment.

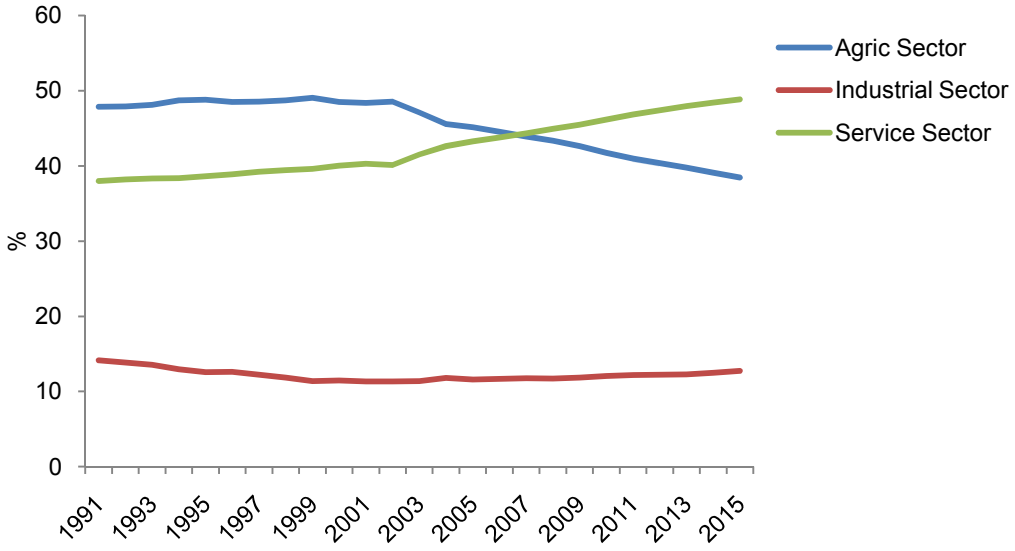

Figure 1 – Key Sector Share of Employment

Table 1 – Descriptive statistics of sector share of employment in Nigeria (1991-2015)

Sector	Minimum (%)	Maximum (%)	Standard Deviation	Mean	Coefficient of Variation (%)
Agriculture	38.45	49.03	3.78	46.25	8.35
Industry	11.32	14.13	0.85	12.24	6.98
Service	37.99	48.82	3.87	42.5	9.1

Source: Author's computation (2017)

Stationarity Test. The results of the stationarity test as detailed in Table 2 show that 3 variables were stationary at level, 14 variables were stationary at first differential, while another 3 variables were stationary at second differential. The results are in line with economic literature, as most economic variables are known to be stationary by the second differential. Thus, in line with the approach, variables stationary at levels were dropped, to satisfy the Johansen's assumption, while the other variables were tested for co-integration.

Table 2 – Results of Unit Root Test (Augmented-Dickey Fuller) for 1993-2015

Variables	Model	t-statistics in level	t-statistics in 1st difference	t-statistics in 2nd difference	Order of Integration
Employment share of Agriculture	Intercept		-3.482**		1(1)
Employment share of Industry	No Intercept and trend		-1.998**		1(1)
Employment share of Service	No Intercept and trend		-7.821*		1(1)
Population	Intercept		-3.426**		1(1)
Exchange Rate	No Intercept and trend		-2.282**		1(1)
GDP	Intercept			-3.392**	1(2)
Agriculture Sector GDP	Intercept		-7.049*		1(1)
Service Sector GDP	No Intercept and trend		-2.140**		1(1)
Manufacturing Sector GDP	No Intercept and trend		-2.399**		1(2)
Inflation Rate	No Intercept and trend		-2.663*		1(1)
Total Federal Government Exp.	Intercept			-7.208*	1(2)
Revenue	Trend & Intercept		-4.674*		1(1)
Real Agriculture Expenditure	No Intercept and trend		-2.709*		1(1)
Capital Expenditure Agriculture	Intercept		-3.034**		1(1)
Interest Rate	Intercept	-3.728**			1(0)
Loan Advance	Intercept			-4.405*	1(2)
Agriculture Sector Import	Trend & Intercept	-3.880**			1(0)
Agriculture Sector Export	No Intercept and trend		-2.534**		1(1)
Agriculture Trade Opening	Intercept	-4.386*			1(0)

Source: Analysed data, 2017.
** Significant at 1 percent; ** Significant at 5 percent.*

Johansen Co-integration Test. Arising from the outcome of the Stationarity test, Johansen test of cointegration was undertaken to ascertain whether there was long run associationship among the variables in the model. However, in view of the problems of the need to satisfy the assumptions of the Johansen test and given the step wise introduction of the variables into the model, only seven of the nineteen variables were supportive of the co-integration test. These were the employment share of agriculture (dependent variable and proxy for structural transformation in agriculture), employment share of the industry sector, employment share of the service sector, population of Nigeria, exchange rate, the gross domestic product and the agriculture sector gross domestic product. The results of the Johansen test (Table 3) show that the 7 variables in the equation have long run associationship, that is, they move together in the long run and that there are 5 co-integrating equations binding them. This position was double confirmed by the trace and maximum statistics. This outcome thus provides justification for the use of the Vector Error Correction Model (VECM).

Table 3 – Johansen test for cointegration

Maximum rank	Eigen Value	Trace Statistic	5% Critical Value	Max statistic	5% Critical value
0	-	435.4526	124.24	213.9155	45.28
1	0.99991	221.5371	94.15	91.6458	39.37
2	0.9814	129.8913	68.52	58.7967	33.46
3	0.92241	71.0947	47.21	35.2506	27.07
4	0.78403	35.8441	29.68	25.4692	20.97
5	0.66957	10.3749 *	15.41	9.7612	14.07
6	0.34584	0.6137	3.76	0.6137	3.76
7	0.02633				

Source: Analysed results, 2017.

Vector Error Correction Model Results. The results from Table 4 shows that the error correction terms for the five co-integrating equations were positive and all significant except the fourth one. The implication of this result is that there is no long run causality running from the six independent variables to employment share of agriculture, which is the dependent variable. However, given that none of the coefficients of the independent variables were significant in the equation, there was no need going further to test the short run and direction of causality for these variables. The results thus imply that is neither long run nor short run causality running from the independent variables to structural transformation in the agriculture sector in the Nigerian economy. Thus, these results questions whether there was any transformation going on in the agriculture sector in Nigeria and if so, it must have been due largely to chance or unexplained phenomenon. The results further calls to question the nature of data Nigeria's socio-economic data.

Table 4 – Vector Error Correction Model Results

D-Price	Coefficient	Standard Error	Z	P> Z
ce 1	3.281212	1.453994	2.26**	0.2024
ce 2	1.62798	0.6371251	2.56**	0.011
ce 3	3.279135	1.219341	2.69*	0.007
ce 4	0.8465417	0.5914071	1.43^{NS}	0.152
ce 5	0.115878	0.0041538	2.79*	0.005
Employagriclog	-6.791168	7.23281	-0.94 ^{NS}	0.348
Employindlog	-2.050144	2.024798	-1.01 ^{NS}	0.311
Employservlog	-6.152593	6.363574	-0.97 ^{NS}	0.334
Poplog	2.585659	22.16717	0.12 ^{NS}	0.907
Excrlog	-0.0101756	0.0073899	-1.38 ^{NS}	0.169
GDPLog	0.1503457	0.2441611	0.62 ^{NS}	0.538
AgrGDPLog	-0.0397995	0.1034297	-0.38 ^{NS}	0.7
Constant	-0.03169	1.434328	-0.02 ^{NS}	0.982

Source: Author's Computation.
**- implies 1 percent significance; ** implies 5 percent significance.*

Diagnostic Tests. To confirm the adequacy of the data set and model used, the normality test and autocorrelation test were carried out. The output of the skewness of data ranged from -0.66 for employment in agriculture to 1.09 in employment in industry, while kurtosis ranged from -1.48 for agriculture GDP to 0.70 for employment in industry. Trochim and Donelly (2006); Gravetter and Wallnau, (2014) and Field (2009) have all affirmed that the values of skewness and kurtosis of between - 2 and + 2 are acceptable to prove normal univarate distribution. For the Durbin Watson test, original and transformed values of 2.06 and 2.14 were obtained respectively. Field (2009) suggest that Durbin Watson values of under 1 or more than 3 are a definite cause for concern. A rule of thumb is that test statistic values in the range of 1.5 to 2.5 are relatively normal.

CONCLUSION

Though, the data trend examined shows a decreasing share of agriculture sector in employment with a simultaneous increase in the size of the service sector share, suggesting structural change in these sectors, results from the Vector Error Correction suggested otherwise, after failing to detect causality from the independent variables in the model to the dependent variable (proxy of structural change in agriculture). The outcome of this study thus raises questions as to whether the transformation observed through trend data was due to chance. While suggesting further work to ascertain the true position of transformation in the agriculture sector and its determinants, we are of the opinion that to sustain the transformation trend in the sector, there is need for increased technological change, enhanced specialization and trade and increased efficiency, complemented by improvement in human capita and institutions within the agriculture sector.

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RUSSIAN REPOSITORY ESSENCE AND DEVELOPMENT PERSPECTIVES

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ABSTRACT
The development of the OTC market for derivative financial instruments requires increased control and supervision, since derivatives are classified as high-risk financial instruments. After the global financial crisis of 2008, representatives of the countries with the greatest influence on the world economy gathered at the G-20 Summit. Within the framework of the summit, a list of measures was developed to prevent new cases of crises involving derivatives. The establishment of the trade repository institute is one of the main measures for the OTC market of derivative financial instruments' control and supervision. The scientific work is devoted to the study of the Russian trade repository. The article describes the essence of the trade repository, prerequisites for establishing and prospecting direction for the Russian trade repository system development.

KEY WORDS
Trade repository, clearing, derivatives, netting, finance.

At present, hedging instruments have been actively introduced into the Russian financial system. A lot of domestic manufacturers, leading an active foreign trade activity, began to form the company's budget, taking into account the fixation of prices for currency and goods through over-the-counter (OTC) derivative financial instruments. First of all, this is due to the increased volatility of oil prices and the ruble exchange rate in relation to major world currencies, the euro and the dollar. In the Russian financial market, the popularity of derivative financial instruments such as options, forwards, swaps, credit and default swaps, sale and repurchase agreement (REPO) transactions are growing. In this regard, there was a need for creating repositories - organizations that keep records of companies, which concluded transactions with derivative financial instruments on the OTC market.

Trading repositories appeared in Russia at the end of 2012. A lot of domestic researchers were involved in the study of Russian repositories. For example, Ozyumenko M.V. was engaged in the study of socio-economic reforms that took place in the EU after the world financial crisis of 2008 [13]. Professor Semenkova E.V. studied the reforms of the Bank of Russia, aimed at maintaining the stability of the Russian financial system and defined promising directions for developing the infrastructure of OTC transactions [16]. However, in their works, domestic researchers covered Russian repositories only indirectly, and viewed them as a part of the financial system, and not as a full-fledged subject of research. Among foreign researchers it is worth noting S. Classens and L. Codres. In their report to International Monetary Fund (IMF) "Financial Regulation: Some Unassimilated Lessons of the Global Crisis", the need to collect and provide information on OTC derivational transactions to national regulators was highlighted, thereby determining a high degree of importance of repositories in maintaining the financial stability of the state [4, 7].

The purpose of this study is to determine the essence of the Russian trade repository, to study the prerequisites for its creation and to identify promising areas for further development. The Bank of Russia reports, statistical materials of the Moscow stock exchange "National Settlement Depository", the federal law "On the securities market", scientific works of authors on a similar topic and materials of international conferences on the Russian derivatives market were used as the main material of the study.

In accordance with the Federal Law of 30.12.2015 No. 430-FZ "On Amendments to the Federal Law "On the Securities Market", the repository is a legal entity that carries out (under the license of the Bank of Russia), the provision of services for the collection,

recording, processing and storing information on concluded (not on organized sales) repurchase agreements, contracts that are derivative financial instruments and contracts of a different kind, provided for by regulatory acts of the Bank of Russia, and also, on maintaining a register of above-mentioned contracts. [11] Repository activities are authorized to implement the exchange market, the clearing organization, the central depository, the settlement depository, which does not have the status of a central depository, except for the central counterparty [18].

According to the instruction of the Central Bank of Russia No. 3253-U of April 30, 2014, companies, which conclude agreement R.ISDA with customers , must register transactions in the repository. Most Russian banks, which provide hedging services for risks, sign a general agreement R.ISDA with customers, on the basis of which OTC transactions are concluded and referred to in case of disputes between the parties of the transaction [14]. R.ISDA is an international documentation published by the International Swaps and Derivatives Association in which the parties pre-cover the main terms of future transactions in order to prevent conflicts of interest in case of an adverse outcome and a possible loss incurred by either party of agreement [5].

Having studied the typical general agreement of R.ISDA, which is signed with its clients by PJSC (Public Joint Stock Company) Sberbank, it is possible to distinguish 6 basic positions:

1) Application of provisions of model contract terms and standard conditions. In accordance with this section, the general agreement, signed by the parties, is based on standards developed by the participants of National Association of Stock Market and the Association of Russian Banks;

2) Conclusion and confirmation of transactions (one of the main provisions of the general agreement, which defines the process of structuring, accepting and concluding a transaction). The basic exchange of information takes place through electronic means of communication and both parties to the agreement are liable for the proper level of security of the information being stored, transmitted and accepted;

3) Regulations on termination. The regulations prescribe the actions of the parties in case of delay in payments and deliveries, debts on long-term obligations and grounds for avoidance of transactions;

4) Submission of documents. In this section, the procedure for the provision of documents by parties of the transaction is specified, the list of necessary documents and the deadline for their submission are indicated;

5) Miscellaneous. In the section, the details of the parties of transaction are specified: the payment netting processes, transfer of information to the repository;

6) Other provisions.

The most interesting for the study is the Regulation "Miscellaneous", within which the question of the repository is raised. In accordance with it, if the bank enters into an OTC transaction, it provides information to the repository for both parties of the transaction [2]. The choice of the repository takes place with the mutual consent of the parties. By signing R. ISDA, each party expresses its irrevocable and unconditional consent for the transfer of information to the repository in the amount, established by regulatory legal acts of the federal executive body for the securities market. If the informing party improperly fulfills its obligations, each party has the right to provide the information about the transaction to the repository separately.

The international financial crisis that occurred in 2008 and was connected with uncontrolled transactions with OTC derivatives, made the international community think about the ways of protecting the financial system [15]. This served as the basis for the G-20 summit in September 2009, in which the leaders of the participating countries proposed a list of measures designed to prevent a recurrence of the crisis:

1. Clearing of transactions through a central counterparty. In the Russian jurisdiction, the central counterparty is a legal entity that has a license for clearing activities and acting as an intermediary between the parties of the transaction. The main task of the central counterparty is the risk - management of the transactions, being concluded, and also the

increasing of the OTC market efficiency of financial instruments' derivatives [9]. The central counterparty conducts an evaluation of the participants in the derivatives transactions and sets the standards for the minimum coverage for the transaction and all transactions, concluded with the central counterparty as an intermediary, are legally and informationally transparent.

2. Standardization of contracts. A special feature of off-exchange transactions with derivative financial instruments is the variability and individuality of the compilation [9, 19]. Participants of the transaction have the right to choose the parameters and covenants of the contract. But the EU countries at the G-20 summit lobbied the adoption of common standards for OTC derivatives, especially credit-default swaps.

3. Transfer of information to trading repositories. The participants of the summit identified the need of the international financial system for accounting of off-exchange transactions, as well as in conducting liquidation netting.

It was the Pittsburgh G-20 summit in September 2009 that served as the starting point for the appearance of trade repositories in all participating countries [6]. The Russian financial system gradually formed the prerequisites for creating its own repository.

Annually, the National Financial Association conducts international conferences, which highlight the current problems and challenges, facing the Russian OTC market. Since 2011, within these conferences, the normative and technical component of the issue of creating repositories was discussed [3]. Much of the business community positively reacted to the creation of the institute of repositories, but in addition to the main task in the form of liquidation netting, it was charged with the task of a mega-regulator providing transparency of transactions with OTC derivatives [12]. By the time the repositories appeared, the Russian financial system was experiencing the need for transparency in OTC transactions, which formed the prerequisites for the creation of the repository institute in Russia [8].

In the end, the first Russian repository became the National Settlement Depository (NSD), which in autumn 2012 prepared the main provisions and schemes for cooperation in providing information to participants in off-exchange transactions. In the same year, the pilot version of the repository was launched [17, 1]. In February 2013, the Federal Service for Financial Markets published a statement that the NSD began to function fully as a repository and by the end of the year the provision of information became mandatory.

Analyzing the prospects for the development of the Russian repository, it is necessary to assess the number and volumes of transactions registered in the NSD. According to the data, presented by NSD on XI International Conference of the National Securities Market Association (NSMA), during the eight months of 2016, the NSD received 360,000 transaction reports, which is 1.5 times higher than the same period of the previous year. During the period from 2013 to August 2016, 875,000 reports on transactions with derivatives with a total volume of 961 trillion rubles were received [20].

Evaluating the importance of registering transactions on the OTC market, it is advisable to compare the volume and number of transactions in terms of a specific instrument, trading on the stock and OTC market. So, the number of repurchase transactions, made through the exchange for 8 months of 2016, exceeds by13 times the number of transactions, concluded of-the-counter for the same period [20]. But when comparing the total volume of transactions on the off-exchange and exchange markets, it turns out that on the OTC market transactions were concluded for a larger amount, and this forms high risks for the economy. That is why there is a need for constant control and monitoring of off-exchange transactions, which is the main direction of development of the Russian repository, along with optimization of the infrastructure and simplification of the process of preparing reports.

Based on the information, which we collected, SWOT analysis was conducted, the results of which determined the further development of the Russian repository system. The repository factors structured by SWOT analysis are presented in Table 1. All data are ranked according to the degree of their importance, the factors that have the greatest impact are listed in the first place, and the factors that are less important are listed in the last place.

Table 1 – Structured by SWOT-Analysis Factors of the Repository

Strengths	Weaknesses
1. Provides collection and storage of information of OTC transactions. 2. Raises the level of financial market transparency. 3. Carries out liquidation netting. 4. Allows assessing the level of stability of the financial system.	1. The rewards of the repository lead to a rise in the cost of transactions. 2. Increases the time of the transaction. 3. Increases the workflow on concluded transaction. 4. It is based on the Russian standards developed by NAUFOR and NVAA.
Opportunities	Threats
1. There is no monopoly on the repository market and conditions for market competition are created. 2. The prerequisites for the creation of a single international repository. 3. The popularity of hedging instruments is increasing in Russia.	1. Foreign agents have difficulties in signing service applications. 2. Billing for non-residents is subject to currency revaluation. 3. Economic sanctions limit international cooperation.

Based on the structured data, a SWOT-analysis matrix was constructed (Table 2).

Table 2 – Matrix of SWOT Analysis of the Russian Repository

n/n	Opportunities	Threats
Strengths	The increased number of transactions requires a sufficient level of supervision and thereby increasing the need for the development of a repository system.	Providing a report on a concluded transaction simultaneously for both participants with only one party facilitates interaction with non-residents.
Weaknesses	Competition in the market of repository services will allow to form a fair amount of commission fee.	Russian standards of repository activity must be recognized by the international economic community.

Based on the SWOT-analysis, it is possible to determine the perspective directions of the development of the Russian repository system:

The Russian transaction accounting system must comply with international standards, therefore one of the priorities of the NSD is the recognition of the European Securities and Markets Authority, and a European financial regulator, engaged in improving financial markets and protecting investors. This will increase the number of OTC transactions with foreign investors and build partnerships with European financial institutions.

Providing information on OTC transactions to an unlimited number of persons will helps to secure the economy from risks of speculation based on information asymmetry. Therefore, Russian repositories should develop information services for customer support, providing an operative list of information. Improving the infrastructure of Russian repositories should be based on the introduction of a post-trading interface that provides end-to-end data transfer from trading platforms. This will speed up and simplify the process of transferring of transaction reports and reducing transaction costs.

Pricing in the market of repository services should be fair. The commission for the recording and storage of information on OTC transactions should not lead to serious costs for parties entering into transactions. Therefore, it is necessary to control the tariffs of repositories from the side of the Bank of Russia, as well as creating conditions for fair competition in the market of repository services.

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PERFORMANCE-BASED BUDGETING AS THE REALIZATION OF FINANCIAL MANAGEMENT REFORMATION IN MALANG CITY

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ABSTRACT
The development of performance-based budgeting is a challenging program to adminster, such as the issues experienced by Malang city. Thus, it is considered necessary to conduct a thorough analysis on the performance-based budgeting conducted by Malang. This study employed a descriptive qualitative study. The result of this study shows that the budgeting conducted by Malang city has been done on time and integratively as an attempt to realize the budgeting based on performance. Some parameters were used to implement this program, including minimum standard service, minimum price per item, and performance indicator. However, Malang city has not yet owned a standard budgeting analysis. Factors that influence the implementation of performance-based budgeting are environmental factors (social, culture, economy, politics), resource planning, the advancement of the system, the development of information and technology, and funding. It is expected that the central government distribute the funding on time in order to help the local governemnt of Malang city to design the budgeting plan within the scheduled time. The design of the standard budgeting analysis (ASB) should be well-designed to support the implementation of the performance-based budgeting.

KEY WORDS
Performance-based budgeting, local government, financial indicators, management, reformation.

Riyadi (2003, p.8) stated that the regional development planning is a process to design the steps and procedure that involve various elements in order to optimally utilize and allocate the resources to improve the social welfare of certain area within certain period of time.

One of the major local resouces is the financial resource. Financial resource is the motor that drives the regional development. Financial resource should be precisely-managed in order to reach the goals of the decentralization. Therefore, a reformation on the financial management of regional government is a crucial step to reach the goal of the decentralization and to create consistent and consequent local governance.

Financial reformation requires a thorough planning and approach to the system of the performance budgeting, and more emphasize on the responsibility, to focus more on on the output and outcome rather than focusing only on the input (Halim, 2007, p.5). Performance-based budgeting demands synchronization between the programs and the fund. Hence, the fund withdrawal can only be done to fund the programs that have been previously planned. In addition, financial allocations in the regional government are intergrated with the reports of the programs which allow the regional government to optimally, economically, effectively and efficiently use the fund.

The consistency on the implementation of the performance-based budgeting that is not supported by precise methodological approach in designing the indicators of the performance is also being questioned. In fact, the government puts mainly focus only on the brand of the program and its implementation. Targets or the goals of the program are in the form of description or qualitative data which make the parameters and the indicators less measurable.

The main issue in the planning of the performance-based budgeting is society's mindest on the traditional budgeting (Rahayu, 2007). The reformation on the regional government financial management as stated by Halim (2007, p.5) requires a shift from the traditional budget to the performance budget. This change should be followed by some other modifications within the system such as technical modification, change of certain formats, and the shifting of the paradigm. However, the regional government has not yet successfully brought the change. Consequently, the format used in the system has been suitable with the performance-based budgeting, yet the mindset remains the same.

LITERATURE REVIEW

The Plan of Suburban Area Development. Bryant (1982, p.310) stated that the planning step is a political step that involves various interests which are not comprehensive interests in which planners and politicians shold participate in the process. Meanwhile, SIagian (1978, p.2) defined development as an effort or a set of attempts to consciously grow and bring changes to a certain society, country and a governance to create a more modern life for the advancement of the nation building.

The definition of local area development shold be seen from the elements within it that include the planning, the development and the area as explained in the previous explanation. Riyadi (2003, p.1) stated that local area development plan refers to a system that is created upon some elements including the planning, development and the area itself. Each of the element should be divergently analyzed before a convergent conclusion can be drawn to determine a complete definition on the matter.

Affandi Andwar and Setia Hadi define the local area development as a process or step to direct the development plan in a certain area that requires an interaction between the human resource and other resources including the natural resource and environment through an adequate investment. (Prisma, 1996 p.49).

Factors that influence the success of the local area development program as mentioned by Riyadi (2003, p.15-39) include: Environmental Factors (Social, Culture, Economy); Politics (Human resource, The system, The advancement of information and technology, Funding).

The Reformation of the Financial Management in the Regional Government. There are at least six modifications on the management of the regional budget as mentioned by Halim (2007: 5-6), which are:

- A shift from the use of vertical accountability to horizontal accountability
- A shift from the use of traditional budge to performance budget
- A shift from financial control and audit to financial control and audit and performance
- Implementation of value for money concept
- The implementation of central accountability concept
- Modifications on the government's accounting system

Regional government Budget. Regional government budget is a calculation of income and expenses. Formally, regional government budget is called *Anggaran Pendapatan dan Belanja Daerah (APBD)* which is the plan to use the fund by the regional government that is legalized by the House of the Representatives. *APBD* is the realization of the financial management within a year. *APBD* is closely related to the society since every public service requires fund. Hence, *APBD* should be legalized by the House of Local Representatives (*DPRD)* (Subekan, 2012, p.94).

There have been a number of approaches used in designing the budget. The approaches can be determined from the output/display of the budget itself as mentioned by Nordiawan (2006, p.53), which are: Traditional Approach, Performance Approach, Approach through *Planning, Programming, and Budgeting System* (PPBS), *Zero-Based Budgeting* (ZBB).

According to Tjandra (2006, p.43), performance-based budgeting is a systematic approach to improve government's responsibility to the tax payers by integrating the funding to the performance and production.

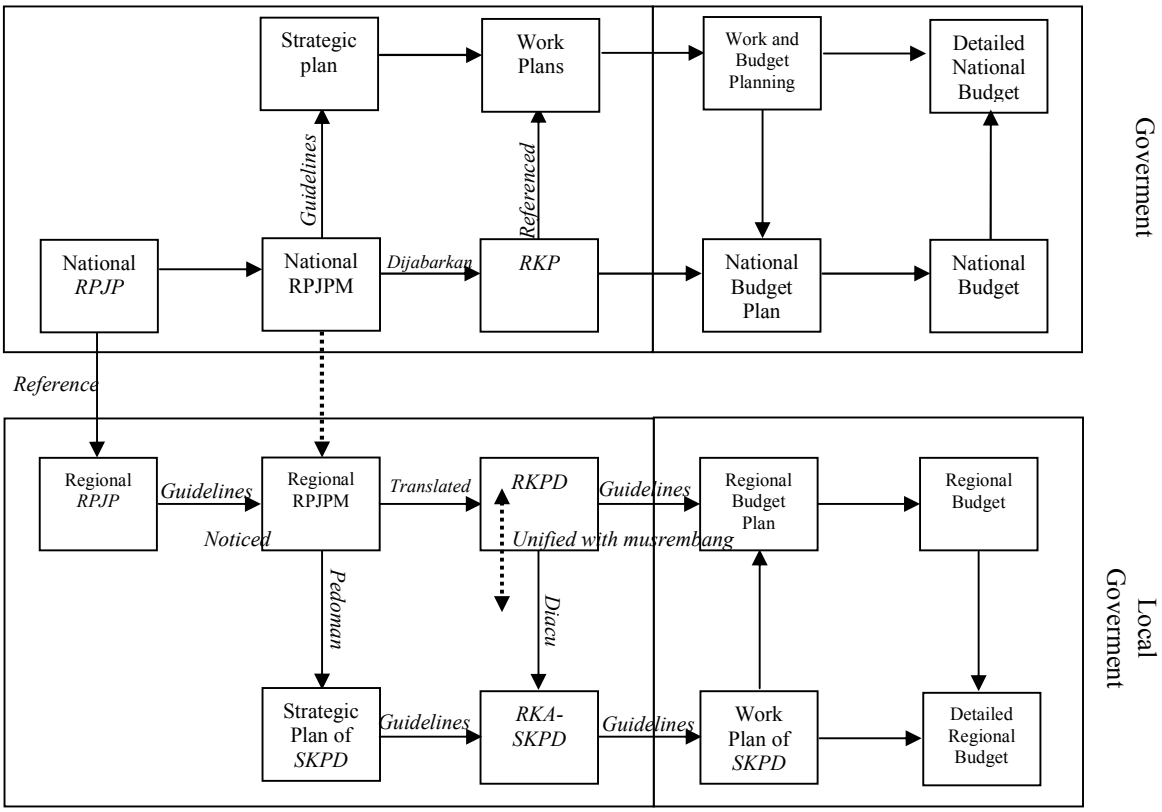

Figure 1 – Procedure of Budget Planning

Suhandak and Suhandak (2007, p.111) explained some indicators that measure the success of the performance-based budgeting, they are; (a) *Standar Pelayanan Minimal* (SPM) or the minimum standard service; (b) *Indikator Kinerja* or indicators of the performance; (c) *Analisis Standar Belanja* (ASB) or the analysis of the standard expenses; and (d) *Standar Satuan Harga* (SSH) or standard price per item.

Futhermore, the steps in designing *APBD* are written in the Regulation of the Ministry of Internal Affairs number 59 of 2007 as follow:

- *Penyusunan Rencana Kerja Pemerintah Daerah* (RKPD) or designing the regional government programs
- *Penyusunan rancangan Kebijakan Umum APBD* (KUA) *dan rancangan Prioritas Plafon Anggaran Sementara (PPAS)* or designing the public policies and the temporary funding priorities
- *Penetapan Pedoman Penyusunan RKA-SKPD oleh Kepala Daerah or* determining the guidelines of *RKA-SKPD* by the head of the regional government.
- *Penyusunan Rencana Kerja dan Angaran SKPD (RKA-SKPD)* or designing the *RKA-SKPD*
- *Penyiapan Raperda APBD* or preparing the meeting
- *Pembahasan Raperda APBD* or discussing the meeting
- *Pembahasan Raperda APBD oleh DPRD* or discussion on the budget by the *DPRD*
- *Penyusunan Rancangan Peraturan Kepala Daerah tentang penjabaran APBD* or the explanation on the budgeting
- *Evaluasi Raperda APBD dan Rancangan Peraturan Kepala Daerah tentang Penjabaran APBD* or the evaluation of the meeting
- *Penetapan Perda APBD dan Peraturan Kepala Daerah tentang Penjabaran APBD* or the legalization of the budgeting.

METHODS OF RESEARCH

This study is a descriptive study that is done using the qualitative approach. This study was conducted in the Department of Regional Finance and Asset Management of Malang City, the House of Regiohnal Representatives of Malang City, and the Office of Expert Staffs in Economy and Finance of Malang City. The focus of this study included the performance-based budgeting, the indicators of the performance-based budgeting, and the factors that influence the implementation of the performance-based budgeting. The primary data of this study were obtained through interview, while the secondary data were collected from the document-review. The data were collected through observation, inteview and documentation. Whilst, the instruments used in this study were the researchers themselves as the key intruments, interview guide, and field notes. The obtained data were analyzed using the interactive analysis model proposed by Miles and Huberman which includes data condensation, data representation and the conclusion. The validity of the data was ensured by conducting the validity test, transferability test, dependability test and the confirmability test.

DISCUSSION OF RESULTS

The Process of Planning the APBD of Malang City. The yearly programs and actions are written in the *Rencana Kerja Pemerintah Daerah (RKPD)* or the Regional government Plan of the Yearly Programs. Based on the result of this study, some insights were obtained as follow.

The design of *RKPD* has fulfilled the requirements of performance-based budget in which *RKPD* has three performance indicators that are used as the guideline in planning certain program.

The society has not yet intensively involved in the discussion. According to an informant, the *musrenbag* is not a pure discussion, but it is only a presentation of the information related to the program and any event that has been legalized by the village officers.

The conference on the plan of *KUA* from the regional government secretary to the Head of the district should have been conducted in the first week of June. However, in 2015 and 2016, the *RKPD* was done in July.

The arrangement of the budget was initiated from the *KUA-PPAS* up to the legalization of the *APBD.* The data obtained in this study shows these following facts.

The arrangement of *KUA-PPAS* has fulfilled the requirement of the performance-based budget which has to be adjusted to the financial capability of a certain area.

The *RKA-SKPD* has been arranged in accordance with the guideline of the performance-based budget using the standard price per item and the standard general expenses.

As the winner of an award called *Wajar Tanpa Pengecualian* 5 year in a row from 2011 – 2015, Malang City always tries to complete the *APBD* on the scheduled time.

The arrangement of the budget was mainly dominated by the executives which made the legislatives as the representatives of the society had less role in controlling the trust from the society in the determination of the *APBD.*

Malang City has started to implement the e-budgeting that makes it easier to plan certain budget based on the performance in which any program or event should be integrated into the computer-based system.

Parameters of the Implementation of Performance-Based Budgeting in Malang City. The standard of minimum service is important to make sure that each *SKPD* gives proper service based on the standard operational procedure. Besides, it also prevents inequality of the services from occurring in certain areas. The arrangement and the legalization of this parameter is ruled in the Government Regulation Number 65 or 2005 on the Guidelines of the Arrangement and Legalization of the Standard of Minimum Service. The government of Malang city always makes sure that each *SKPD* fulfills the minimum requirements. This has

been confirmed through an interview with Mr. Prasetya Petandra who was the staff of the division of program planning in *Kantor Badan Perencanaan, Penelitan dan Pengembangan Kota Malang* on October 5th 2014 at 14.45, in which he stated that,

"To the best of my knowledge, *barenlitbang* has all the data needed. All of *SKPD* in Malang has fulfilled the *SPM*".

Standard price per item is used in the arrangement of *KUA-PPAS, DPA, and RKA-SKPD.* The fluctuation of the price demands the *SSH* to always update the data every year. In Malang city, *SSH* is legalized by the Regulation of the City Governor of Malang Number 41 of 2014 about the standard of per item price in 2015. The price includes: Standard of honoranium; Standard of overtime work wage; Standard business trip funding; Standard wages and goods; Standard rental cost; Standard price of consultation or billing rate; Standard honoranium and other components.

Malang City as the awardee of *Wajar Tanpa Pengecualian (WTP)* award 5 year in a row has not yet owned any analysis of standard expense out of the four indicators. As the consequence, the fairness of the work expense and the fund needed for a program or an event cannot be pricesely measured. This appears as a weakness that might trigger some individuals to mark up the budget.

Performance indicators are made to ensure that the goals and the target of certain programs or events held by the regional government measureable. The performance indicators of Malang City is written in the Regulation of the Malang City Government number 30 of 2015 on the completion of the performance indicators of Malang in 2015. Mr. Prasetya Husada who is a staff in the division of program planning in *Kantor Badan Perencanaan, Penelitian dan Pengembangan Kota Malang* stated in an interview held on Octover 5th 2017 at 14.45 that "Performance indicators were created by *barenlitbang* during the arrangement of the *RKPD*".

Factors that Influence the Planning of Performance Budget in Maang City. From the result of the interview, it can be seen that discussions, conferences, and meetings are the crucial steps in makin certain decisions. Even more, results of meetings during the planning of performance-based budgeting were written in agreement notes. It is a matter of fact that no one is perfect, and no matter how good the leaders are, they would not be able to lead the leadership themselves. Thus, a good cooperation from all of the elements in Malang city is needed for the success of the financial management reformation especially the planning of performance budget in Malang city.

In addition to the social factor, organizational factor also has a significant influence to the success of the financial reformation. A completely different change would be difficult to happen if certain attitude within the organizational culture is too strong. This case also occurs in the planning of the performance budget in Malang city. As a nation, regional government must still obey the rules of the central government.

Well-developed countries spend high proportion of their national budget for the society, while developing countries tend to give smaller proportion of the budget for the society. The results of several interviews point out the fact that the fulfillment of the high amount of direct transactions caused lesser proportion of the national budget for the society. Even more, within the budget for indirect transactions, there has been a huge amount that should be spent for officers' necessities although the informants were fully aware and had huge expectation that the budget of Malang city should be mostly spent for the society. It is an unfortunate that the regulation prevents it from being implemented.

The reformation of the local financial management demands contributions from various parties. One of the major challenges in implementing this plan is the planning step of the performance budget. Based on the interview, it is stated that the political condition has a major role in the success of performance budget implementation. In this case, supports from the government, non-government parties and the society are necessary during the planning step. The government also has an optimistic belief that good governance can be achieved by implementing the performance-based budgeting.

Human resource is the key to the success of the planning step, which determines the following steps. Therefore, high quality human resources who understand the planning step

guarantee the success of regional development. On the contrary, low quality human resources inhibit the process of regional development.

Some changes should be made to reform the financial management of regional government. One of which is by implementing the performance-budget system, replacing the old traditional budgeting system. The planning step of performance budgeting requires some programs and actions from *SKPD* that do not only give good output but also good outcome. Besides, this plan also demands good integration of programs and actions held by the regional government. Hence, there should be no more programs or actions that are arranged out of sudden.

Information and technology are influential to the reformation of the regional financial development. However, some informants believed that the advancement of information appeared as obstacles in the implementation of the performance budgeting system. This understanding is related to the frequent modification on the regulations which is found to be problematic for the planners to keep adjusted to the newest system. Fortunately, the government provides trainings, workshops, and socialization on the current regulation to be implemented by the government of Malang city.

Different from the advancement of information, advancement of technology is considered helpful in the planning of the performance budget. One of the major change that utilizes the advancement of technology is the implementation of e-Budgeting that allows the arrangement of *RKPD, KUA-PPAS, RKA, RAPBD, DPA* up to the accountability report to be done within the integrated system. E-Budgeting clearly simplifies the implementation of performance budget for it integrates various procedures in the planning step.

Any kinds of regional development are strongly related to the use of the regional budget. Those two different elements should synergize to create a feasible way to implement the program. If the regional budget is enough to fund regional programs, regional development can be accelerated. On the contrary, if the regional budget cannot afford the expenses for conducting certain programs, the regional development might be obstructed. Therefore, funding is an absolute requirement for the implementation of the performance budgeting system.

CONCLUSION

From the resulf of this study on the planning of performance-based budgeting as an attempt to reform the financial management of Malang city, it can be concluded that the planning step has been done on time. However, late fund distribution from the central government inhibit the implementation of this program. The governemnt of Malang city also has made some attempts to create an integrated budgeting system although some new programs occurred out of the plan.

In relation to the implementation of performance budgeting system, the government of Malang city utilizes 3 (three) tools to ensure the success of the program. The tools include the *Standar Pelayanan Minimal (SPM)* or the minimum standard service*, Standar Satuan Harga (SSH)* or the standard price per item and *Indikator Kinerja (IK)* or the indicator of performance.

Meanwhile, factors that influence the planning of the performance-based budgeting involve the environmental factor of the regional government of Malang city including the social factor such as discussions and conferences, organizational culture, the condition of the economy, and the regional leadership. On the other side, the officers have been considered eligible to pefrom their jobs, even though only some of them understand accounting. In conclusion, Malang city has been successfully implemented the performace-based budgeting system even though the regulations are frequently changing. The success of the implementation of performance-based budgeting system is also influenced by the advancement of information, technology, and strong funding.

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THE ABILITY OF INDONESIA COCOA BEANS IN FULFILLING THE DOMESTIC NECESSITY OF INTERMEDIATE PROCESSED COCOA INDUSTRY

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ABSTRACT
Intermediate processed cocoa and chocolate industries in the world show increasing because the chocolate products consumption is growing at a very strong pace. Indonesia is a country with the potential to become the largest exporter of intermediate processed cocoa. The objectives of this research are: to analyze the ability of production of domestic cocoa beans to meet the demand for intermediate processed cocoa industry; to analyze the factors that influence the demand for cocoa beans to produce cocoa paste, cocoa butter and cocoa powder. This research uses simultaneous equation model with 2SLS method. This study states that the cocoa beans necessity required by industry of cocoa paste, cocoa butter and cocoa powder can be fulfilled by domestic production of cocoa beans. Cocoa beans demand for cocoa paste industry is influenced by wages, cocoa beans demand for cocoa butter and cocoa powder industries. Cocoa beans demand to produce cocoa butter is affected by world cocoa price, interest rate, cocoa beans demand for cocoa paste and cocoa powder industries.

KEY WORDS
Production, demand, cocoa beans, cocoa butter, cocoa paste, cocoa powder.

There are 127 exporting countries and 167 importing countries listed as cocoa beans trading countries in the world market. Mostly, cocoa beans need in the world are filled by cocoa beans producing countries from African (Ivory Coast, Ghana, Nigeria and Cameroon), Asia (Indonesia, Malaysia and Papua New) and America (Brazil, Ecuador and Colombia). Ivory Coast and Ghana are the largest producer and exporter countries in the world. In 2010, the Ivory Coast and Ghana market share were 30% and 10.2% respectively and increased respectively to 38.4%, 18.5% in 2016.

Indonesia in 2010 was still the third-largest producer and exporter of cocoa beans in the world after Ivory Coast and Ghana. Market share Indonesia in the cocoa beans world market in 2010 was 14.3% and continued to decline in the following years. The declining market share of Indonesia cocoa beans in the world market is due to the policy of limiting the export of cocoa beans in order to fulfill the need of domestic processed cacao industry. According to Suranovic M (2003), an export tax is a tax which is obtained from exported goods and it can be set on a specific or an ad valorem tariff. Indonesia government attempted to make Indonesia as the greatest country exporter of cocoa intermediate in the world according to Indonesia Presidential Regulation number 28 Year 2008 stating that cocoa and cocoa processing industry is a national priority industry, world-class industry and mainstay industry of the future. This is very possible to achieve considering Indonesia is a cocoa beans producing country. Cocoa beans is the raw material of intermediate processed cocoa that support the chocolate processing industry

Natural resources owned by Indonesia and the high consumption of world chocolate, make many global companies invest in Indonesia. In 2014, there were 16 processed cocoa

and chocolate companies with 400,000 tons of production capacity and increasing to 19 companies with a capacity of 700,000 tons in 2016. New investors in processed cocoa and chocolate industries are multinational companies. They are Guanchong Cocoa and JB Cocoa from Malaysia with 180,000 tons production capacity, Barry Comextra from Switzerland with 60,000 tons, Cargill Cocoa Holand with 65,000 tons and ADM Cocoa from the United States. The high production capacity causes increased demand for cocoa beans as raw materials. (BTCOCOA, 2014).

A study examining the demand for cocoa beans for intermediate processed cocoa industry has not been found yet, however, two previous studies are found related to the demand for a commodity as a raw material of a processed industry. Desweni et al (2015) revealed that demand for corn input by poultry industry in Indonesia is significantly and positively influenced by poultry prices and the amount of labor in the livestock industry, while poultry prices have an effect on industry demand with negative relationship direction. Ferrianta Y (2012) in its research using 2 SLS method stated that corn demand by animal feed industry is significantly influenced by feed price (α = 3,9%) and corn demand for food industry last year with α = 0,02% . The price of maize has a significant effect on the level of α = 26%. Soybean price has no significant effect on feed industry demand and has negative relationship direction. It can be concluded both from the Ferryanta (2012) and Desweni et al (2015) studies that the price of output from an industry influences its input demand.

In order to support the Indonesia Presidential Regulation number 28 Year 2008 which makes chocolate and cocoa processing industries as a national priority industry, therefore it needs a deep study of the need and availability of cocoa beans as raw materials for intermediate processed cocoa, as well as the factors that affect the demand for cocoa beans for each intermediate processed cocoa industry. The interesting thing to answer is whether as a cocoa beans producer country, Indonesia is automatically able to fulfill the demand for domestic cocoa beans. The increasing of downstream industry, especially intermediate processed cocoa industry, is expected to increase the production and export of intermediate processed cocoa to compete in the international market. Therefore, based on the problems, the purpose of this study is to analyze the ability of domestic cocoa beans production in fulfilling the demand for intermediate processed cocoa industry and analyze the factors that influence the demand for cocoa beans to produce cocoa paste, cocoa butter and cocoa powder. The lack of research on the demand for cocoa beans for intermediate processed cocoa industry and the factors that influence it, is the renewal in this study.

METHODS OF RESEARCH

This study used secondary data from 1992 to 2015 in relation to factors affecting the production of cocoa beans and cocoa beans demand from the intermediate processed cocoa industry. Data sources come from Trademap, ICCO, FAO, UN Comtrade, World, Indonesia Central Bureau of Statistics, Directorate General of Plantation, Labor Department, Coffee and Cocoa Research Center (Puslitkoka, Jember).

Graphical and trend analysis are used to determine the ability of domestic cocoa beans to fulfill the cocoa beans demand for domestic processed cocoa industry. By graphical, it can be seen and compared, the movement of production volumes and cocoa beans demand for the intermediate processed cocoa industry. Trend analysis is used to predict the production volume of cocoa beans and cocoa beans demand in the next years.

Cocoa beans demand for the intermediate processed cocoa industry is used as raw material for cocoa paste, cocoa butter and cocoa powder. The total of Indonesia cocoa beans demand is the sum of cocoa beans demand for processed cocoa industry to produce cocoa paste, cocoa butter and cocoa powder.

$$Dbk_{Ina} = D_{bk}^{cb} + D_{bk}^{cp} + D_{bk}^{cpd} \qquad (1)$$

Where:

Dbk_{Ina} = total of Indonesia cocoa beans demand;

D_{bk}^{cb} = demand for cocoa beans to produce cocoa paste;
D_{bk}^{cp} = demand for cocoa beans to produce cocoa butter;
D_{bk}^{cpd} = demand for cocoa beans to produce cocoa powder.

Cocoa beans are used by processed cocoa beans industry as the main inputs for intermediate processed cacao processing, therefore cocoa beans demand function in the processed cacao industry is the function of derived demand from the industry production function of cocoa paste, cocoa butter, cocoa powder.

The following are sequentially arranged equations: (1) Function of cocoa butter demand which is derivative function of cocoa butter production function, (2) Function of cocoa paste demand which is derivative function of cocoa paste production function. (3) Function of cocoa powder demand which is derivative function of cocoa powder production function.

$$D_{bk}^{cb} = a_0 + a_1 Pcb_{Ina} + a_2 Pbk_{Ina} + a_3 i + a_4 W + a_5 D_{bk}^{cp} + a_6 D_{bk}^{cpd} + a_7 D_{bk}^{cb} L + U_1 \quad (2)$$

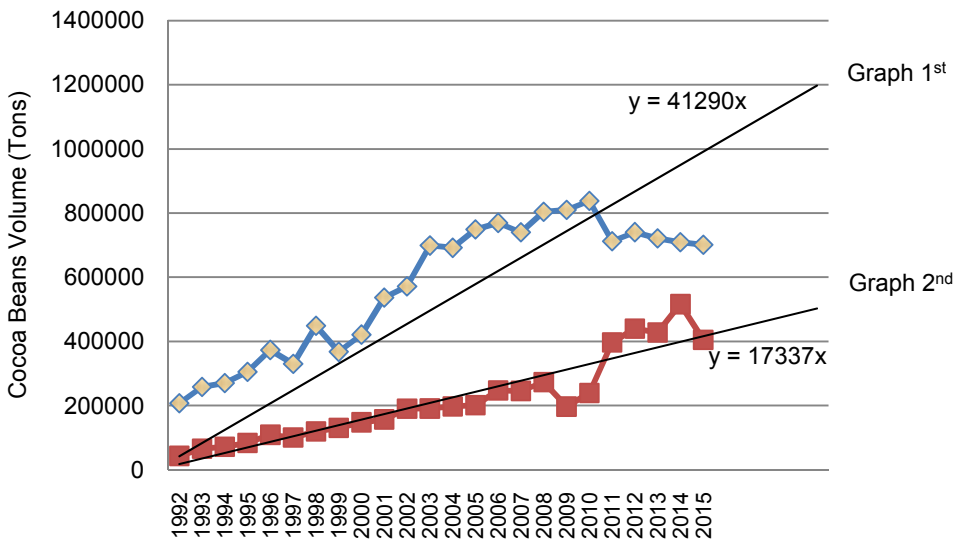
$$D_{bk}^{cp} = b_0 + b_1 Pcp_{Ina} + b_2 Pbk_{Ina} + b_3 i + b_4 W + b_5 D_{bk}^{cb} + b_6 D_{bk}^{cpd} + b_7 D_{bk}^{cp} L + U_2 \quad (3)$$

$$D_{bk}^{cpd} = c_0 + c_1 Pcpd_{Ina} + c_2 Pbk_{Ina} + c_3 i + c_4 W + c_5 D_{bk}^{cb} + c_6 D_{bk}^{cp} + c_7 D_{bk}^{cpd} L + U_3 \quad (4)$$

Where:
Pbk_{Ina} = Price of Indonesia cocoa beans;
Pcb_{Ina} = Price of Indonesia cocoa butter;
Pcp_{Ina} = Price of Indonesia cocoa paste;
$Pcpd_{Ina}$ = Price of Indonesia cocoa powder;
i = Interest rate;
W = Wages;
$D_{bk}^{cb}L$ = Lag of demand for cocoa beans to produce cocoa paste;
$D_{bk}^{cp}L$ = Lag of demand for cocoa beans to produce cocoa butter;
$D_{bk}^{cpd}L$ = Lag of demand for cocoa beans to produce cocoa powder.

RESULTS AND DISCUSSION

Since the adoption of export restrictions on cocoa beans in 2010, the concentration of cocoa beans has been directed to fulfill the cocoa beans demand for domestic processed cocoa industry.



Source : Directorate General of Plantatios (2014) dan FAO

Figure 1 – Production and Demand for Indonesia Cocoa Beans

The aim of export limiting of cocoa beans is to enable the Indonesia nation to enjoy the added value of cocoa beans that have been enjoyed by the importing countries of Indonesia cocoa beans. Based on data obtained from directorate general of plantations and FAO, the quantity of cocoa beans production volume shows that there is a tendency to increase. There is a decrease in cocoa beans production after 2010 because of the number of old cocoa trees and climate change (El Nino and a lot of rainfall). Nevertheless, the decrease of cocoa beans production can still fulfill the necessity of the intermediate processed cocoa industry.

Figure 1 consists of 2 charts. Graph 1st (blue) describes the production volume of cocoa beans. Graph 2nd (red) describes the demand volume of cocoa beans to fulfill the necessity of the intermediate processed cocoa industry. It can be seen that graph 1st is higher than graph 2nd. It means that the production of Indonesia cocoa beans is able to fulfill the necessity of domestic intermediate processed cocoa industry. There has been an increase in the demand for cocoa beans by the intermediate processed cocoa industry after the imposition of export restrictions on domestic cocoa beans. This shows that the regulation of the Minister of Finance No. 67 / PMK.011 / 2010 plays an effective role in efforts to increase the production of intermediate processed cocoa industry products. It appears also in figure 1 and table 1 that both production and demand for cocoa beans have a rising trend in the future.

Table 1 – Production and Demand Trend of Cocoa Beans

Year	Cocoa Bean Production	Demand for Cocoa Bean
2017	706407	451484
2018	732630	468896
2019	758853	486308
2020	785076	503720
2021	811299	521132

Source: FAO and Trademap.

Statistical test results shows that the exogenous variables used in the model have the opportunity to explain 96.72% (R^2) of the endogenous variable variation (demand for cocoa beans to produce cocoa butter) and the remaining 3,28% is influenced by other variables that are not found in the model.

Cocoa beans demand for cocoa butter industry is cocoa beans demand to produce cocoa butter. It simultaneously and partially is affected by the world cocoa beans price, interest rate, cocoa beans demand to produce cocoa paste and cocoa beans demand to produce cocoa powder. This is indicated by the F-value of 132.60 with significance level smaller than 0.01% and t-value with significance level smaller than 0.07%.

The world cocoa beans price affects the demand for cocoa beans to produce cocoa butter with negative relations. It means that the higher the world cocoa beans price will decrease the demand for cocoa beans to produce cocoa butter, because the price of Indonesia cocoa beans is also affected by the world price of cocoa beans. Interest rate shows a negative relationship with demand for cocoa beans to produce cocoa butter. It shows that the higher the interest rate, the demand for cocoa beans to produce cocoa butter is lower. The increased interest rate will cause the interest expense of capital loans to be increasing.

Cocoa beans demand to produce cocoa paste and cocoa powder have a positive relationship to cocoa beans demand to produce cocoa butter. The higher the demand for cocoa beans to produce cocoa paste and cocoa powder, the greater the demand for cocoa beans to produce butter. It shows that there is a complementary characteristic between cocoa paste to cocoa butter and cocoa powder to cocoa butter. Cocoa butter and cocoa powder are formed together after the formation of cocoa paste from cocoa beans.

It's obtained R^2 as big as 93.91% from statistic test with linear system procedure on cocoa beans demand for cocoa paste industry. Its means that the exogenous variables in the model explain the variation of endogenous variable by 93.91% and the remainder 6.09% is influenced by other variables that are not included in the model.

Cocoa beans demand for cocoa paste industry is cocoa beans demand to produce cocoa paste. It can be stated that cocoa beans demand for cocoa paste industry is simultaneously influenced by ratio of Indonesia cocoa paste price and world cocoa paste price, wages, cocoa beans demand to produce cocoa butter and cocoa powder. This is indicated by F-value as big as 69.41 with significance level less than 0.01%.

Cocoa beans demand to produce cocoa paste is partially influenced by wages, cocoa beans demand to produce cocoa butter and cocoa powder. It can be seen that the wage coefficient is positive. It implies that the higher the wages of the workforce, the demand for cocoa beans to produce cocoa paste is increasing. It's because the wages of labor in Indonesia get attention from government and experience an increase that is adjusted to the minimum living necessity. This condition causes the industry to increase production volume to cover production costs, so the demand for cocoa beans to produce cocoa paste increases even though it happens increasing of wages.

The ratio of Indonesia cocoa paste price and world cocoa paste price has no significant effect on cocoa beans demand to produce cocoa paste. It's predicted by the value of the price ratio is relatively small. The price of cocoa paste Indonesia is cheaper than the world price. This condition is different from the results of research Ferryanta (2012) and Desweni et al (2015) which state that the output price of an industry affects the input demand.

Cocoa beans demand to produce cocoa paste is influenced by the demand for cocoa beans to produce cocoa butter with positive marked on its coefficient. The larger the cocoa butter is produced, the more cocoa paste is produced. This suggests that the increasing demand for cocoa beans to produce cocoa butter, it also increases the demand for cocoa beans to produce cocoa paste. In general, intermediate processed cocoa industry in Indonesia is a unified intermediate processed cocoa industry that produces cocoa paste, cocoa butter and cocoa powder. This is because the production process runs sequentially. If it is viewed from the export side, the market share of cocoa paste and cocoa butter are different countries. The main importing country of Indonesia cocoa butter is the United States, while the main importer country of Indonesia cocoa paste is Malaysia, so there is no competition both of them.

Cocoa beans demand to produce cocoa powder has a negative coefficient to the demand for cocoa beans to produce cocoa paste. This is predicted because cocoa paste and cocoa powder have the same main export destination country, that is Malaysia

Cocoa beans demand to produce cocoa powder has a negative coefficient on the cocoa beans demand to produce cocoa paste. Demand for cocoa beans to produce cocoa paste and powder eliminates each other. It is predicted that cocoa paste and cocoa powder have the same main export destination country, which is Malaysia.

Exogenous variables used in model of cocoa bean demand to produce cocoa powder are able to explain 94.17% variation of endogenous variable (cocoa beans demand for cocoa powder industry) and the rest of 5.83% influenced by other variables that are not contained in model.

Cocoa beans demand for cocoa powder industry is cocoa beans demand to produce cocoa powder. Cocoa beans demand for cocoa powder industry is simultaneously influenced by the ratio of Indonesia cocoa powder price and world cocoa powder price, wages; cocoa beans demand to produce cocoa butter and cocoa pasta. This is indicated by F-value as big as 72.65 with significance level less than 0.01%.

Cocoa beans demand for cocoa powder industry is partially influenced by wages, cocoa beans demand for cocoa butter and cocoa pasta. Labor wages are always evaluated by government and have increased according to minimum living requirements. This condition causes the industry to increase the volume of production, so the necessity for cocoa beans is increasing even though it happens the wages increasing.

In contrast to the results of Ferryanta (2012) and Desweni et al (2015) studies which stated that the output price of an industry influences its input demand, the ratio of Indonesian cocoa powder price and world cocoa powder price does not significantly affect the cocoa beans demand for the cocoa powder industry. It is predicted because the value of price ratio is relatively small or the price of cocoa powder Indonesia is cheaper than world prices.

Cocoa beans demand to produce cocoa butter affects the demand for cocoa beans to produce cocoa powder with a positive marked of coefficient. It indicates that the increasing demand for cocoa beans to produce cocoa butter, will also increase the demand for cocoa beans to produce cocoa powder. It's because they are the continued products of cocoa paste which is processed.

Cocoa beans demand to produce cocoa paste has a negative coefficient marked on the cocoa beans demand to produce cocoa powder. It indicates that the increasing demand for cocoa beans to produce cocoa paste, will decrease cocoa beans demand to produce cocoa powder. This is predicted that cocoa paste and cocoa powder have the same main export destination countries, namely Malaysia.

CONCLUSION

The necessity of cocoa beans required by the intermediate processed cocoa industry can be fulfilled from the production of cocoa beans domestically, and cocoa beans demand volume to produce cocoa paste, cocoa butter and cocoa powder show increasing after the restriction of cocoa beans export since 2010.

Cocoa beans demand to produce cocoa butter, cocoa beans demand to produce cocoa paste and cocoa beans demand to produce cocoa powder affect each other.

Cocoa beans demand to produce cocoa butter is affected by the world cocoa beans price, interest rate, cocoa beans demand to produce cocoa paste and cocoa beans demand to produce cocoa powder. Cocoa beans demand for cocoa paste industry is influenced by wages; cocoa beans demand to produce cocoa butter and cocoa powder. Cocoa beans demand for cocoa powder industry is influenced by wages, cocoa beans demand for cocoa butter and cocoa pasta.

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RESEARCH OF THE PROFIT'S ESSENCE AS ECONOMIC CATEGORY ON THE EXAMPLE OF AGRICULTURAL ENTERPRISES

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ABSTRACT
Research of the essence and nature of profits is the oldest question that the world economic science is studying till present days. Scientists of various fields and scientific schools have made a significant contribution to researches of profit's nature; however, modern life again raises this issue. The main scientific and practical problem of the article is the incompleteness in the process of cognizing the nature of profit, its practical importance for enterprises. The purpose of the article is to study the profit's nature and discover its essence on the basis of existing concepts and on the example of agricultural enterprises as the most important representatives of real sector of economy. The methodological basis of the research is the theses of classical economic theory, neoinstitutionalism, modern finance theory, fundamental foundations of the enterprise's economy, theory of modern accounting. In the article, relevance of the research's subject is considered, excursion into the history of research of profit's essence is made, a number of definitions of category «profit» are studied, and classification of profit's types for agricultural enterprises is given. Also, the article highlights the functions and factors that influence the formation of profit (on the example of agricultural production), presents a simple algorithm for calculating profits, which does not infringe any of the existing profit's concepts.

KEY WORDS
Profit, profit's essence, profit's nature, financial results, profit.

In modern conditions of development, the most important indicator of the efficiency of any enterprise is its effectiveness, which consists of several components of financial and economic activity. The most important and well-known components are revenue, costs, turnover, yield, investment. The final indicator, reflecting the overall profitability and effectiveness of the activity, is profit.

Research of profit both at the deep theoretical level and at the level of a particular enterprise is the basis for making scientific decisions at all levels of management – national, regional, individual enterprise level. Study of the nature of profit, features of its management is aimed not only to reveal the fundamental aspects of profit formation and its maximization, but also to reveal the opportunities for further growth of the agro-industrial complex and economy as a whole. In these conditions, the importance of modern theoretical analysis, disclosing the whole diversity of the concept of «profit» as one of the most important economic category, increases.

During a number of years, representatives of economic school have explored and put forward many different theoretical aspects of understanding and generating profit. Profit is one of the most intricate and complex economic categories, therefore we will give its various definitions, interpretations, representations. In general sense, profit is the amount which revenue exceeds costs. Very often only profit is defined as the difference between total revenue and total costs or as net revenue.

RESULTS AND DISCUSSION

Today there are many definitions of profit, its types and functions. The founders among researchers of profit's essence are the economists of classical economic school and their followers: Adam Smith, Jean-Baptiste Say, Johann Heinrich von Thunen, Karl Marx, Frank Knight, John M. Keynes, John C. Galbraith and others [1]. When we consider their concepts of entrepreneurship, we can note the following main directions of the theory of entrepreneurs' profit: unpaid labor of workers (K. Marx); temporary income from technical innovations (J.A. Schumpeter); result of the uncertain nature of future events (F. Knight, J. M. Keynes); profit as income generated by the existence of monopolies that determine the difference between price of goods and their production costs [2].

Researches of modern scientists also include different approaches to study of profit's nature. N.N. Seleznev and A.F. Ionova in their work examine the impact of inflation on financial results, but does not analyze the correspondence between the concepts of financial result and profit. The authors provide the following definition of profit: profit is the earnings of entrepreneur in cash, which characterizes his remuneration for risk of entrepreneurial activity. Also we can find such definition: profit is the difference between aggregate income and total costs in the process of entrepreneurial activities. Profit is a special systematically reproduced resource of commercial organization, the final goal of business development [3]. So we can note that profit's definition has extensive characteristics because it is a special resource, net income and the final goal of business development.

According to definition of S.F. Pokropivniy, profit is a part of the revenue that remains after recovering all costs for the enterprise's production and commercial activities [4]. According to other scientists, this definition reveals its economic essence not completely, and they give their definition of profit as a monetary expression of the monetary savings created by enterprises of any form of ownership [5; 6].

G.V. Savitskaya notes that the financial results of enterprise's activities are characterized by amount of received profit and by level of profitability: profit is a part of the net income that business entities receive after their products are sold. The profit is subdivided into balance (cumulative), taxable and net profit. Balance sheet profit includes financial results from the sale of products, works and services, from other sales, income and expenses from non-operating transactions. Taxable profit is the difference between the balance sheet profit and the amount of profit taxable on income, as well as the amount of benefits for income tax. Net profit is the profit that remains after payment of all taxes, economic sanctions and deductions to charitable funds [7].

A.N. Ryakhovskoy with colleagues interprets profit as a part of newly created value, which is produced and realized, and is ready for distribution. The author notes the importance of process of selling product, not just producing [8].

According to opinion of V.Y. Gorfinkely and his colleagues, profit characterizes the economic effect obtained in result of the enterprise's activities. The presence of profit in enterprise means that its revenues exceed all costs associated with its activities [9]. A.M. Kovaleva in her works pointed out that, in accordance with the economic approach, profit is increase of the capital of enterprise's owners [10].

After analysis of definitions of profit, we can conclude that profit is any benefit. Nevertheless, these definitions of profit make it rather difficult to understand it as an economic category. I.A. Blank, analyzing the monetary mechanisms of managing the formation of operating profit, characterizes the balance (total) profit as one of the important results in financial activities of enterprise. This is the sum of the following types of enterprise's profits: profit from sale of products (or operating profit), profit from sale of property and profits from non-operating transactions with the key role of operating profit, whose share currently amounts to approximately 90-95% of the total profit [11].

Applying research of profit's nature to agricultural enterprises, we should note that future of Russian economy depends to a large extent on reliability of information that provides a real reflection of the financial situation and financial performance of agricultural organizations. Profit as a criterion of the effectiveness of agricultural reproduction, has one

important feature – it reflects the final financial result of agricultural producers [12].

From the point of view of modern accounting, profit is a form of monetary accumulation that is formed in all sectors of national economy and describes the final financial result of the business activities. Modern national financial policy of developed and developing countries in development of accounting forms is aimed to improving indicators, it is important to understand the types of profits in terms of accounting approach [13].

The types of profit are reflected, as a rule, in report of financial results of enterprise. However, the variety of types of profit is much wider and depends on the industry's kind, type and scale of enterprise. The systematization of types of profit for agricultural sector is presented in table 1.

Table 1 – Generalized classification of profit's types of agricultural enterprise by its functional purposes

Classification features	Profit's types
According to Accounting	Gross profit
	Revenue from sales
	Profit before taxation
	Taxable profit
	Net profit
	Basic profit per share
	Total profit per share
By sources of formation	Profit from sales of agricultural products
	Profit from sales of farm property
	Profit from non-sales operations
By type of economic activity	Profit from the sale of products
	Profit from natural events
	Profit from agricultural activities
	Profit from investing activities
	Profit from financing activities
	Profit from innovation activities
By composition of components	Marginal profit
	Revenue from sales
	Profit before taxation
	Undistributed profit of current period
	Net profit
By direction of distribution of net profit	Capitalized profit
	Profit belonging to owners
	Profit allocated to reserve funds
	Profit remaining at the disposal of enterprise
By terms of taxation	Taxable profit
	Nontaxable profit (according to tax privileges)
By nature of inflationary cleaning	Nominal profit Real profit
Depending on time of formation of profit	Profit from past periods
	Profit of current period
	Profit of planned period
Depending on regularity of formation	Emergency profit
	Regular (periodic) profit
	Seasonal profit
By value of final result	Positive profit
	Negative profit (loss)
From the position of adequacy of formation of the profit's level	Low profit
	Normal profit
	High profit
From the position of uncertainty and risk	Profit taking into account the risk
	Compensatory profit
	Appropriated profit
From the point of view of bankruptcy	Sanitation Profit

The variety of profit's types extends the possibilities of analyzing the activities of economic entities that can classify, detail and use the profit indicator in various situations. Of course, the correctness of calculation of taxable profits will be important for the tax authorities, and for the owners of enterprise the most important thing is net profit as a source of accrual and payment of dividends.

The nature of profit as economic category, specific way of expressing its properties is

manifested in functions of profit. We consider the following profit's functions [14; 15]:

- *evaluation function*. Profit is considered as indicator that most comprehensively characterizes the efficiency of production and assesses the economic activity of enterprise. In agriculture the evaluation function plays very important role;
- *stimulating function*. Profit promotes expansion of production, social development, material encouragement of agricultural producers and their employees, and also has a stimulating effect on the functioning of enterprises. The peculiarity of agricultural enterprises is the fact that profits are distributed mainly in favor of development of production, or for needs of capital's accumulation, not consumption;
- *fiscal function*. Profit is considered as a source of formation of budgetary resources and off-budget funds. The profit of agricultural producers is more often privileged in tax, but it is the basis for filling local budgets;
- *control function*. Profit is the main indicator that shows the final result of the enterprise's activity;
- *distribution function*. Profit is distributed between production and non-production spheres, between enterprises and society, owners and employees. Distribution function is a source of accumulation and development of agricultural production, consumption, material incentives for workers;
- *social function*. Profit is a source of funding for social needs, social programs, and charitable activities;
- *protective function*. Profit is similar to the enterprise's shield, protecting against the danger of bankruptcy. In real life the probability of bankruptcy of agricultural enterprise can manifest itself even in the conditions of positive profit. With a competent financial management of enterprise with accumulated reserves, profits can exit the crisis more quickly and successfully. By means of accumulating the profits enterprise can quickly build up highly liquid assets, the amount of its own funds, form reserve and insurance funds, etc.

Thus, profit as economic category has a large number of qualifying characteristics. The main economic essence of profit is characteristic of the financial result of enterprise's activity, also is the basis of enterprise's economic development and the main source of expanded reproduction.

The formation of profit depends on many factors. These factors can be internal and external, can depend on own activities of enterprises or not. Factors affecting the profit and profitability of agricultural production are numerous and diverse. Some of them depend on the activities of specific collectives, others are related to technology and the organization of production, the efficiency of use of productive resources. The main factors affecting the profit and profitability of agricultural enterprises are the following [15; 16]:

1) *level of production costs*. The cost directly depends on level of manufacturability of agricultural production, the quality of management in production process, labor costs, quality of ecology in production, formed production infrastructure;

2) *weather and climate conditions*. The big role of the weather factor is manifested in plant growing. The emergence of productive and lean years in the history of agriculture was associated with climatic changes;

3) *average prices in markets*. The agricultural market has a special mechanism for pricing, responsive to changes in demand and exposed to government regulation. Currently, large share of agricultural enterprises of all forms of ownership in different countries have low profitability, which is due to the state of the world food market. However, substantial government support allows to survive and develop this market. This support is expressed in establishment of minimum prices for agricultural products, tax privileges, subsidies, grant support and other methods.

For agricultural enterprise that oriented to rigid competitive market, the condition of the activity's efficiency is to establish acceptable minimum price for enterprise and to ensure the optimal volume of output, which gives the maximum amount of profit. In conditions of price competition, production that ensures a minimum cost of its products and, accordingly, a maximum of profit, can be considered as effective. In conditions of non-price competition,

agricultural production is effective, if it ensures minimum total costs, or maximum aggregate productivity of labor.

Thus, the main factors that determine the value of agricultural products in a competitive market include «market pressure» on the price of goods in the direction of reduction and forced «producer pressure». To compare the variants of technology and other strategic measures, the entrepreneur always focuses on market prices. To enter the market successfully, enterprise needs to have a technology that may not be the most modern. It is enough to reduce costs relative to competitors that dominate the market [17].

In dynamic process this profit can be determined by the formula:

$$P = (P - C)\ Q\ T \qquad (1)$$

or

$$P = \sum (Pj - Cj)\ Qj \qquad (2)$$

where Pj – the actual price of sale of goods in the market on the j-th time interval; Cj – prime cost of production of goods at the enterprise on the j-th time interval; Qj – quantity of output on j-th time interval (month, year); T – the number of periods of time in the conditions of leading decline in the level of the individual product cost relative to the price of goods on the market.

During comparing the variants of organizational and technical measures, this indicator can be considered as the relative savings received with its implementation. Therefore, the earlier the new technology are introduced, the cheaper they provide the output in comparison with the existing costs, the larger output, the longer the lead time and the greater personal income of the commodity producer [2].

CONCLUSION

The study of the profit's essence allows to draw the following conclusions.

1. Profit is a complex, intricate and completely unexplored economic category, characterized by a multitude of classification characteristics. Researchers of the past and modern scientists differently interpret the essence of profit; however, everything boils down to one: profit characterizes the financial result of enterprise's activities. Also profit is the basis of enterprise's economic development and the main source of expanded reproduction.

2. Agricultural enterprises are a special type of commodity producers whose activities depend on a number of specific factors, such as weather, climate and technological conditions. This fact reflects on the special pricing mechanism in this market, on profit formation, enterprise's development efficiency and distribution.

3. At present days the dominant form of agricultural markets is the combination of competitive and non-competitive markets, where a combination of price and non-price methods of competition occurs. Therefore, to maximize profits, agricultural producers must monitor the external environment, dynamically changing the direction of domestic policy under the influence of external factors.

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ATTRACTING OF FOREIGN INVESTMENTS FOR NATIONAL ECONOMY THROUGH THE EMISSION OF EUROBONDS

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ABSTRACT
Foreign investments are an important resource for the development of the Russian economy both at the macro level and at the branch level. This is especially important in the current political conditions, when anti-Russian sanctions actually deprived domestic financial and non-financial companies of the possibility of obtaining loans abroad on favorable terms. Moreover, there are unfavorable trends in foreign direct investment observed. All these options are stimulated the business community to find new, promising methods of attracting investments. One of them is using of Eurobonds. Eurobond loans are quickly gaining popularity, which determines the need to monitor the Eurobond market. In this scientific work was analyzed the volume and structure of Eurobond loans issued in Russia. Particular attention was paid to the issue of Eurobond loans by the largest Russian banking organizations and industrial companies. The conducted research made it possible to draw a conclusion about the importance of Eurobonds for the Russian loan market, to identify the directions of the positive and negative impact of Eurobond loans on the Russian economy and the activities of individual economic entities. The results of the research can be used to form investment strategies by financial and non-financial organizations.

KEY WORDS
Foreign investments, Eurobonds, capital, currency, bond issue, bond redemption.

Due to the tense political situation, many domestic companies lost the opportunity to obtain preferential loans from foreign banks. Thus, the era of cheap loans ended, and the Russian economy faced the question of how to raise funds for further development. Introduced in 2014, sanctions against major domestic banks reduced the amount of foreign currency on the Russian market, increased demand for it and became one of the reasons for the devaluation of the ruble.

In this situation, there was a need for alternative ways of attracting capital. This way was the issue of Eurobonds. The main objective of Eurobonds is to cover and restructure existing debts or replenish working capital. The main difference between Eurobonds and lending is deferred payment of the main debt. The issue of Eurobonds is important from the scientific point of view, as an element of microeconomics considering the structure of the borrowed capital of joint-stock companies. The study of this mechanism will determine the optimal ways to increase the profitability of enterprises.

Research of the mechanism of Eurobonding borrowed many domestic scientists. Representative of the State University Higher School of Economics Leonova N.V. [7] studied the system of registration of Eurobonds in domestic and international depositories. Ilyina A.I. and Zaitseva E.N. [1] representing South Ural State University, considered the importance of Eurobond loans for domestic metallurgical companies. Koren A.V. deals with the issues of the capital market at the Vladivostok State University of Economics and Service. [4]. In his article "Basic Directions for the Effective Management of the Investment Portfolio" he reviews debt instruments as part of portfolio investment.

However, not all issues in this area are sufficiently developed. Therefore, the purpose of this research is to analyze the mechanism of borrowing money by Russian companies through the issue of Eurobonds.

Borrowing in the international capital market originated during the reign of Catherine II. In the Soviet period, the external debt tried to keep at the level of 5 billion US dollars, it was not more than 5% of GNP [5]. Such a low indicator of external debt is due to the command economy, which did not recognize private property and, as a consequence, the absence of corporate loans. But after the death of L.I. Brezhnev's foreign debt has increased tenfold in seven years [2]. Thus, as an official receiver of the USSR, Russia has a significant debt burden of 123.5 billion US dollars for 1997. The borrower on the world capital market was Vneshekonombank of the USSR, it was through this structure that the issuance of debt securities was carried out. Remarkable is the fact that the Soviet papers actively bought American banks and funds.

In fact, Eurobonds are a tool for long-term borrowing of cash, by placing a bond in a foreign currency for the issuer and on a foreign exchange. Eurobonds have the following characteristics:

1. The nominal value (nominal). The price, which the issuer pays the bonds to the first investors. Often, the nominal value is 1,000 rubles.

2. Market price. The price determined on the exchange in the bidding process. It is defined as a percentage of the nominal, maybe as high (for example, 101.2%) or below par (98.7%).

3. Coupon. The value of the interest payment on the bond (measured in annual). The amount and date of coupon payment can be viewed at www.rusbonds.ru. Determined as a percentage of the nominal.

4. Redemption. Date, when the issuer pays to the investor the amount of the debt on the bond and the last interest payment. An analogue of the closing date of the deposit.

5. Rate to maturity. The rate in percent per annum, which the investor will receive if he holds the bond to maturity. It takes into account coupon income and income due to the difference in purchase and redemption prices.

6. Offer. The date when the issuer early (before redemption) will buy bonds from the investor at a price equal to par.

Eurobonds can be issued by the state and private organizations (corporate bonds). Issuers can issue Eurobonds of different levels of reliability. The main is the division into senior bonds and subordinated [9].

Senior bonds (senior bonds) are bonds with the priority right of claiming to the company's assets, secured by a legally fixed right to a specific part of the issuer's property. These bonds can be pledged to provide for any property [10].

Subordinated debentures represent unsecured debt obligations, in which the level of claims on assets is the lowest in comparison with all other classes of debt obligations. In case of liquidation of the company, the property claims of the holders of its subordinated bonds are satisfied only after the property claims of all "senior" creditors have been fully satisfied. Subordinated bonds of the new order are freely convertible into shares of the company [11].

Most often, Eurobonds are placed on the London Stock Exchange, since IOB section is considered to be one of the largest and most liquid in the world in terms of daily trading volume. Considering the fact that borrowing takes place on the international market, Euroclear and Clearstrream provide depositary and clearing services. In turn, at the state level, there is registration in banks – custodians. After the introduction of economic sanctions against Russia, brokers were obliged to change the custodian banks to the National Clearing Depository (NSD). The final nominal holder of the Eurobond is the investor [6].

The state more often uses Eurobond loans to cover the budget deficit and fulfill its obligations to citizens, not to implement large projects, also concerns the subjects of the federation. There are 13 issues in circulation now. Below are listed examples of sovereign Russian Eurobonds:

1. Russia – 2017, issue 12840059V. Bonds are traded on the London Stock Exchange with a yield of 3.25% per annum, semi-annual payments, denominated in US dollars.

2. Russia – 2018, issue 49001RMFS. The bonds are traded on the London Stock Exchange with a yield of 7.85% per annum, semi-annual payments, but are mined in rubles. The total amount of the issue is 90 billion rubles.

3. Russia – 2018, Issue MK-0-CM-126. The bonds are traded on the Luxembourg Stock Exchange with a yield of 11% per annum, semi-annual payments, denominated in US dollars. The total amount of emission is 3,466,398,000 US dollars.

Eurobond loans from the total amount of the state external debt amount to 37,042 million US dollars, compared to 50,864 million US dollars. The main reason lies in the fact that few credit institutions are able to provide the state with such a large amount of loans, without the use of syndicated loans. Therefore, Eurobonds remain the most effective way of attracting foreign funds.

Of the municipal Eurobonds in circulation on the German stock exchange are only Eurobonds of Moscow, which allows us to conclude that for the regions Eurobond loans are irrelevant. This is due to the lack of demand for bonds, and hence their liquidity [8].

Quite different is the situation with Eurobonds of Russian companies. All major commercial organizations place their Eurobonds on the London, Luxembourg and Frankfurt stock exchanges. These include not only banks with state participation, but also large industrial companies (Evraz, Nordgold, Alrosa, etc.).

Domestic companies have residents in circulation Eurobonds amounting to 485 billion US dollars. This is the main part of the gross external debt of the state. Comparing this indicator with the GDP of Russia for 2015, in the amount of 1.2 trillion US dollars, the debt burden is serious, but within the limits of the norm in comparison with other countries. For example, the ratio of the external debt of the United States to GDP is 98%, Britain has 322%, and Germany has 159% [3].

Evaluating the importance of Eurobond loans, it is necessary to consider the capital structure of the largest Russian companies from one industry. Preferably consideration of the banking sector, because this is the most financially active group of companies.

From the banking sector, it is advisable to compare the largest domestic bank - PJSC Sberbank, private bank PJSC Binbank and Alfa Bank. As of June 30, 2016, Sberbank issued debt securities worth 1.3 trillion from this mass of Eurobonds 603 billion rubles, with an average yield of 3.5-5% per annum. Thus, it can be concluded that almost half of Sberbank's debt securities are issued in the form of Eurobonds. Binbank issued Eurobonds for a total of 9 billion rubles, with a yield of 8.5% per annum, relative to the total amount of debt securities of 119 billion rubles. Alfa Bank issued Eurobonds worth 241 billion rubles, with a total amount of debt securities issued of 300 billion rubles. The rate on Alfa Bank's bonds averages about 7.5% per annum. Eurobond loans are actively used by Sberbank and Alfa Bank. Eurobonds of Sberbank are in demand, therefore their rate is lower than that of Binbank and Alfa Bank. Binbank makes attempts to enter the international Eurobond market, but this method of borrowing is not profitable for it. Foreign investors, relying on the level of reliability of Binbank, as an issuer, require a greater return on investment.

Eurobonds can be issued not only by financial institutions, but also by companies from the real sector of the economy. It is advisable to consider the company Gazprom, since it is a large domestic company with state participation in the authorized capital, and the company Norilsk Nickel as a large private industrial company. Gazprom has 23 issues of Eurobonds nominated in USD, CHF and EUR. The volume of loans in excess of 1.4 trillion rubles and the average rate at 6.5% per annum. The company MMC Norilsk Nickel issued 3 issues of Eurobonds nominated in USD. The total volume of Eurobonds is 181 billion rubles, and average yield of about 5% per annum. Thus, it can be concluded that companies from the real sector of the economy are actively attracting loans through the issue of Eurobonds. At the same time, the availability of quality assets in the company's ownership increases their reliability rating and reduces the yield on the securities issued by them.

Thus, the analysis of the Russian market of Eurobond loans showed a well-established mechanism of foreign borrowing. In the structure of the overall external debt of the Russian Federation, Eurobond loans occupy a significant part. Attraction of foreign capital is mutually beneficial for domestic companies and the state, since it allows you to receive foreign

currency at low interest rates, and for foreign investors - to receive a percentage that exceeds the yield of their securities. This allowed increasing the number of carry treading operations used by foreign hedge funds. Analyzing the structure of debt obligations of domestic companies, we can conclude that due to the specifics of business, it is advantageous for companies to attract borrowed funds through the issue of Eurobonds. This mechanism is most successfully used by the financial sector of the economy. Russian banks actively switched to issuing Eurobonds after they blocked access to loans from foreign banks.

However, Eurobond loans also have a negative impact on the Russian economy. Since the funds are attracted in foreign currency, the conversion of funds affects the exchange rates. In this way, attracting funds through Eurobonds can adversely affect domestic companies due to the increasing volatility of foreign exchange rates. To the greater extent, exporters suffer from this, the inflow of foreign currency increases the demand for the ruble and in case of currency revaluation of the received income, the company has losses. This is a big problem for many small companies that are not able to hedge this type of risk.

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PUBLIC-PRIVATE PARTNERSHIP AS A TOOL FOR IMPROVING RESEARCH AND DEVELOPMENT SECTOR

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ABSTRACT
The article is devoted to the issues of scientific and innovative developments sector, foreign experience in solving insufficient financing problems through mechanisms of interaction between the state and business, and the use of this experience for Russia. Since international scientific and technical cooperation in the second half of the 20th and beginning of the 21st century has become the close attention subject of both individual states and influential international organizations, many countries are considering this form of cooperation, which has become an intersection of the science interests sphere, science and technology policy and foreign policy as an instrument for developing its own scientific potential and economic growth for a long-term perspective. The importance of the role that science and innovation play in determining the competitiveness of states, determining their place in the international division of labor, no one doubts. As for Russia, today everyone understands the need for speedy introduction of its economy into an innovative way of development, and it is impossible to do this without active development of science. The data analysis testifies to a certain increase in the expenditures of the federal budget on science. However, this increase is directed only at covering the costs of current items, but does not provide such expenditure items as acquisition of intangible assets, devices and equipment, overhaul of fixed assets.

KEY WORDS
Scientific and innovative sector, cooperation, competitiveness, labor, federal budget, research, development.

A detailed examination of the foreign experience of cooperation between the public and private sectors of the economy in financing R & D shows that all developed countries use one or another form of co-financing of business financing with the state within the framework of public-private participation, giving the business significant benefits for these purposes.

Key words: scientific and innovative sector, international scientific and technical cooperation (ISTC), competitiveness, international division of labor, federal budget, public-private participation, innovations, research and development (R & D)

Introduction. The relevance of this topic is undeniable for a number of reasons at the present time. First, the trends in the modern global world have developed in such a way that knowledge and advanced technologies determine everything today. Practice shows that the scientific and technical potential and the economy development level are directly proportional to their change. But the maintenance of science at an appropriate level is becoming more expensive every year, and conducting research in one country is becoming more complicated, so all the countries of the world began to cooperate in their efforts to achieve common goals. Naturally, Russia in this regard is no exception, especially if it seeks to take its place among the leading countries.

Secondly, it is not by chance that the EU, the US, China and Japan are taken as example. These are the countries that have the highest scientific, technical and innovative potential, they are global leaders, and cooperation with them is an opportunity to accelerate the process of catching-up development for our country. Thirdly, the constant monitoring of trends in the development of international scientific and technical cooperation of the country, their analysis and evaluation helps identify and develop the most priority areas and areas of

cooperation in accordance with national interests, develop sound scientific and technical policies and effectively influence the economy country, stimulating its growth.

To write the article, materials of such researchers and scientists as Udaltsova N.L., Airapetyan M.S., Gordeev A., Plakitkina L.S., Rick Norment etc., as well as electronic resources from official websites of institutional bodies (World Bank, UNESCO, Russian Federal State Statistics Service, etc.) were used.

Main part. In modern conditions, the science effectiveness is increasingly determined by the characteristics of the scientific and technological potential, which includes the totality of personnel, financial, logistical, information, organizational and other resources necessary for the scientific and technological activities implementation.

World practice shows that science cannot function normally efficiently without a scientific and technological potential stable build-up. It's condition largely depends on the financing amount. The society development progress can be ensured only by systematic growth basis in the financing volume of the scientific and technical sphere balanced by costs types, work types, fields of science and socio-economic goals. The science-technical progress (STP) dynamics requires a continuous increase in R & D costs, as the process of acquiring new knowledge with increasing time factor becomes more expensive.

The group of indicators characterizing the state science state is usually divided into two large subgroups: indicators of scientific and technical potential (financing, number of employees, number of staff of researchers of the highest qualification, etc.) and evaluation of scientific performance (number of publications, patent statistics, technological balance of payments, etc.). Below is a brief analysis of several key indicators of the development of Russian science.

Thus, in 2016, the total amount allocated to civil science from the federal budget was 402,7 billion rubles. , which is clearly reflected in the Figure 1. This is 3,8 times more (in constant prices) than in 2000's [1]. The main increase in appropriations was for 2000-2013 years almost 4,8 times, in the next three years, their volume, due to the growing budget constraints in the conditions of the economic crisis caused by the simultaneous effect of a number of internal and external factors, declined by 21,2% as a whole.

In 2017-2019 years it is planned to allocate more than 300 billion rubles annually for civil science (in current prices). At the same time, their share in federal budget expenditures will remain at the level of 2016 – 2,4%. The largest value of this indicator was registered in 2013 – 3,19%, which was to a certain extent due to the active scientific and technical policy pursued by the state. Appropriations as a percentage of GDP for the period 2000-2013 years rose from 0,23% to 0,60%, reaching a maximum value, and subsequently decreased to 0,47%.

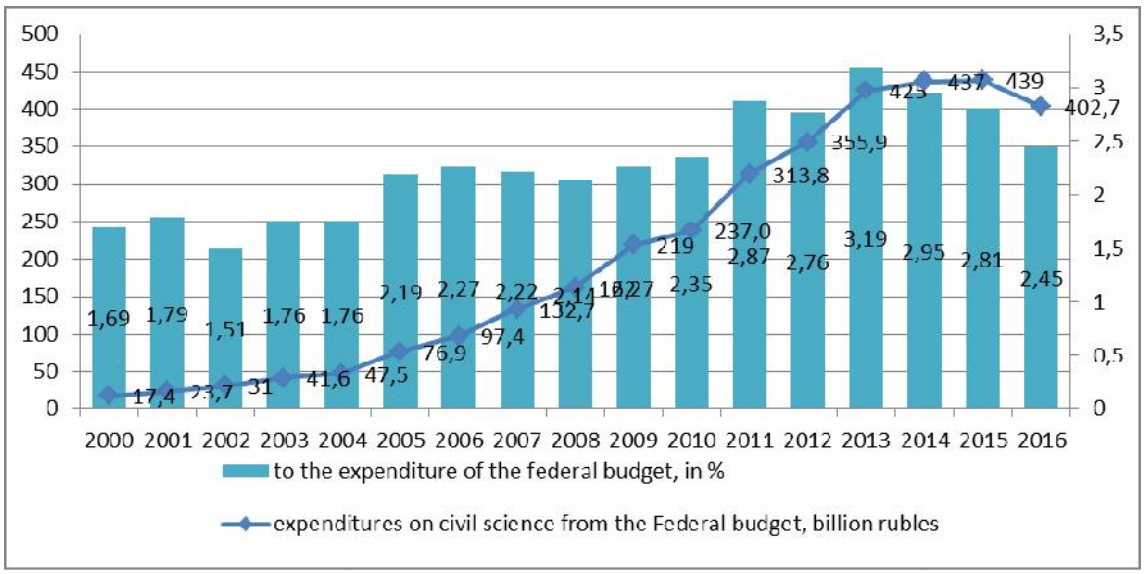

Figure 1 – Allocations for civil science from the federal budget [1]

In allocations for civilian science, more than a quarter - 26,1% in 2016 accounted for fundamental and 73,9% for applied scientific research (Figure 2). During the last 6 years, the share of basic research did not exceed 30%, in 2017 it is planned to increase it to 34,9%, and in 2019 - to 40,4%.

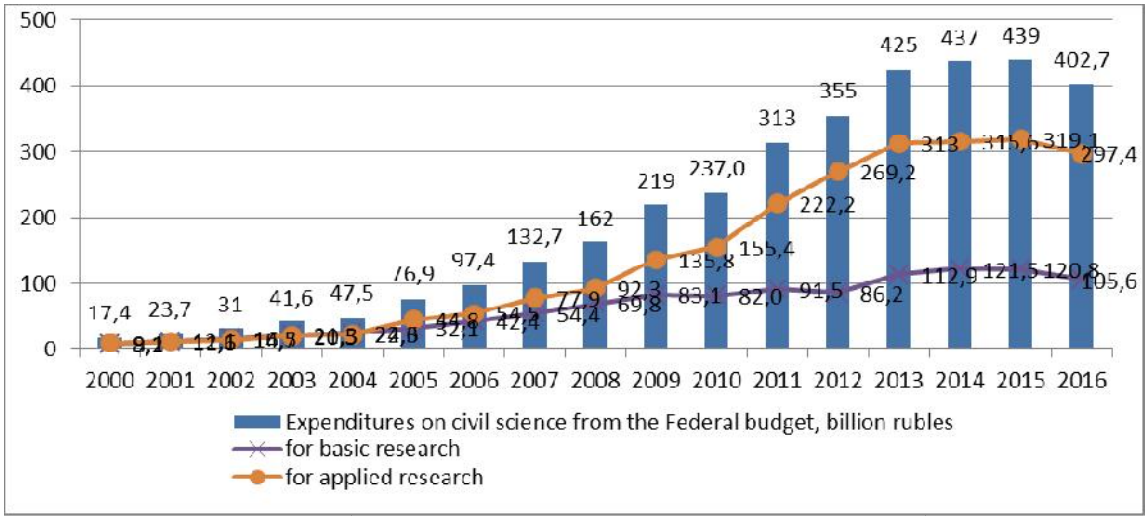

Figure 2 – Financing science from the federal budget [1]

In the allocations structure for civilian science, by subsections of the budget classification, the largest share - 62,4% in 2016 falls on applied scientific research in the field of the national economy. The share of applied research in the field of health care is 4,6%, education – 2,9%, national issues – 3,7%, in 2017 their values will increase against the decline in the share of applied research in the field of national economy (up to 51%).

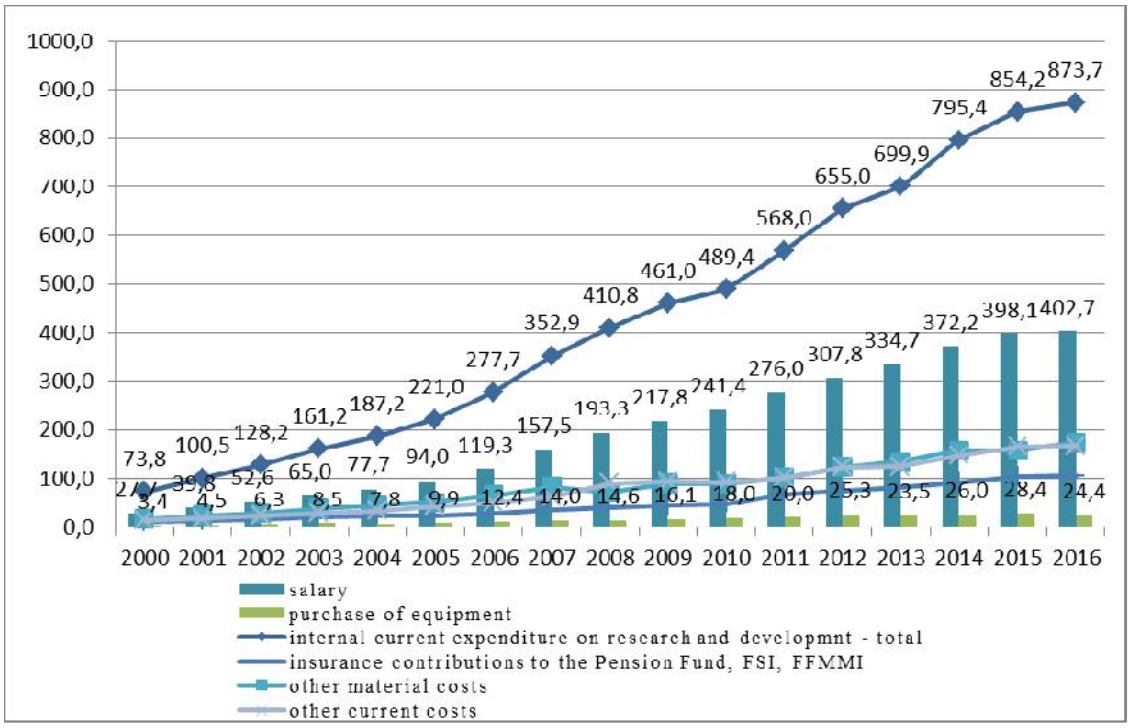

Figure 3 – Internal current expenditure on research and development by type of cost [3]

The analysis of Figure 3 data indicates a certain cost escalation of federal budget on science. However, this increase is aimed only at covering the costs of current articles (commonly, wages, deductions for payment of a single social tax, partial compensation of

material costs, communal payments), but does not provide, in accordance with the needs, such articles of costs as the acquisition of intangible assets, devices and equipment, major repairs of capital stock. And this is despite the fact that the level of wages in science still be one of the lowest in country. The results of calculations show that at the present time, costs on science under all sources is 10-15% of minimum necessary need.

Federal targeted scientific and technical programs are the most important mechanism of scientific, technical and innovation policies realization. The analysis shows that they do not envisage a mechanism for financing the R & D results implementation, as well as transferring these results to other federal target programs for the same purposes. This disadvantage is not eliminated in the Federal Targeted Scientific and Technical Program «Research and Development in Priority Directions for the Development of the Scientific and Technical Complex of Russia for 2007-2012», approved by the order of the Russian Federation Government of August 17, 2006. The absence of mechanism that involve scientific and technical activities results reduces the effectiveness of ongoing R & D.

In conditions of scientific and technical sphere chronic underfunding, basically, the growth of science effectiveness is impossible. According to expert estimates, the average Russian scientist is equipped with the equipment necessary for research, ten times lower than his col-leagues from industrialized countries. Thus, the authors come to the conclusion that it is ne-cessary to attract investment infusions from the business side to scientific and technical de-velopments.

Today, the interaction organization between the state sector and business structures is one of the main ways to ensure the development investment potential of all branches that the national economy has including science. The precondition for creation of such partnerships became confidence that private business is more mobile and, therefore, functions more efficiently than government structures [4].

The areas where applies such form of partnership differ by country, and the leading positions are taken by projects for the creation and development of energy and transport infrastructure. The more developed the country, the greater the diversity in the application of the public pri-vate partnership mechanism, exactly more from its usage for physical development to spheres, connected with humankind potential development, that is, the post-industrial nature of its use. According to the World Bank, in the low- and middle-income countries between 1990 and 2015, the most frequently implemented public private partnership projects in the energy sector accounted for 41% of the total number of projects, 27% in the transport and roads, 17% in communications, 15% in provision of water supply and development of sewerage and cleaning systems [5], and in developed countries more and more projects using instruments public private partnership tools are introduced in education, health, social welfare, culture, housing and communal services.

The cooperation attractiveness in public-private partnership lies in the possibility of combining strong suits of each participant [6]. For the state sector, this is a legal authority, a protectionist procurement policy, a balance of goals for meeting public needs, labor and capital resources, and for the private sector - effective management, latest technologies, efficient production facilities, cash management experience, integrated resource use.

Postindustrial countries experience analysis shows that sustainable economic growth achiev-ing is possible only through intensive development of innovation activity, which implies the growth of new products and technologies through scientific discoveries and inventions, the introduction of more efficient business processes, organizational structures and management mechanisms. The main role in this is played by research organizations - generators of new knowledge. The search of new knowledge is a key stage in scientific and technological progress. The main questions are: how to get this knowledge most effectively, how to trans-form them into innovation with minimal cost, which are necessary for economic development. In the context of the economy globalization and stiff competition in the world market, the an-swers to these questions are becoming a key tool in the fight for economic and social stability [6]. The mechanism of public private partnership successfully takes root in the research field, which is quite properly, since only 15% of the developments receive a positive result, and the remaining 85% are not profitable. Consequently, business does not

seek to invest in risky projects with a low probability of making a profit and prefers to support the existing technolo-gies.

A detailed examination of the foreign experience of cooperation between the state and private sectors of the economy in financing R & D shows that all developed countries use some form of business finance cooperation with the state within the framework of public private partnership, providing the business with significant benefits for these purposes [7].

The practice of public-private partnership in the United States has a long history - the first formats emerged more than two hundred years ago in the period of American statehood es-tablishment. Now thousands of cooperation projects between the state and business are successfully implemented both at the federal level and at a lower level in the USA.

These form of relations in the country is understood as «... an agreement between a state and a private company that is agreed in a contractual form, allowing the latter to participate in state ownership and perform functions traditionally in the responsibility of public authority in agreed form» [8].

The term «public-private partnership» defines a wide range of relations in the range of more or less simple contracts on which a private company takes certain risks and agrees to a system of penalties, to complex, technically difficult projects involving construction, modernization, operation of objects and their management. The most efficient business cooperation with the state in the USA is through venture funds. Venture funds fund not only R & D, but also the creation of an experimental-innovative product with bringing it to the stage of production.

The funds allocating scheme looks as follows: after the sanction of the Congress, the US Department of the Treasury sends cash tranches to the account of each participating in pro-gram federal agency. Then these funds are allocated directly in the form of grants and loans to research centers, businesses, non-governmental organizations, as well as local authorities upon consideration of related applications.

For example, such beneficiary is the National Science Development Fund, an independent federal agency, created by the Congress in 1950 «to promote the progress of science, improve the health, prosperity and well-being of the nation, and ensure national defense». With an annual budget of about $ 6.06 billion, he finances about 20% of all basic research of federal level, conducted by USA colleges and universities. The Fund is the main source of federal funding in many areas, including mathematics, computer engineering and social sciences [9].

The United States has a rich positive experience of actively stimulating innovative develop-ment. For example, in 1986, a law was enacted that facilitated the procedure for the use of intellectual property rights by individuals, as a result of which the number of issued patents increased several times. According to the number of patents, American transnational corpo-rations are leaders.

After the adoption the Federal law about how to transfer technology in 1996, the USA sharply simplified the organization of interaction between universities, research centers and private business, and already in 2006 a new law on supporting R & D was adopted in the United States, according to which scientific organizations will receive until 2015 year financial support in the amount of 86 billion dollars.

One of the main features of American national innovation system establishment in the late XIX - early XX century was the close relationship between industrial corporations and universities.

The higher education decentralization, the financing of state educational institutions by the state authorities meant a close scientific research link to the economic needs of the region.

The USA experience shows that the innovation process can be successfully developed through both private and public funding. Everything depends not on the source of investment, but on its effectiveness. An important role is played by the nature of investment climate in the country, the development of the legislative framework, regulating the relations of participants in the innovation process, the information and logistical scientific research support, cooperation between subjects of innovation.

In the USA, the share of innovations state financing in recent years begins to exceed private investment. The state support system in the post-crisis period is characterized by the spread of the program-targeted approach. At the same time, financial resources are concentrated on priority technological and sectorial areas. For example, in the aerospace industry, government spending is received by more than 75% of firms and laboratories, engaged in R & D in this area [10].

In Germany, the research and innovation sphere, the public private partnership mechanism has been developing since the late 1990s. One of the most famous is the Frankfurt Innovation Center of Biotechnology (Frankfurter Innovationszentrum Biotechnologie GmbH), organized on the basis of public private partnership in 2002 (partnership partners - the government of the federal state of Hesse, the municipality of Frankfurt-on-Main, the Industrial and Commercial Chamber of Frankfurt-on-Main). This center specializes in the treatment of inflammatory diseases and the central nervous system diseases innovations introduction and on protein research. In its premises work divisions of pharmaceutical companies (among them nine German companies and two foreigners - American and British), one information technology company, the American Research Institute and the Center of Research, Development and Security of Medicines at Goethe University (Frankfurt-on-Maine) [11].

In 2000, the Hochschul-Informations-System GmbH, which is funded from the federal and regional budgets, specializing in the development of software for higher education institutions, conducting research in higher education sphere, planning of university construction and university management, launch a volumetric review of B. Vogel and B. Stratmann «Public-private partnership in sphere of research: new forms of cooperation between science and business». In the future there appeared a number of publications devoted to the topic of public private partnership in sphere of research and innovation. So, it is possible to indicate the fol-lowing works:

- R. Becker, «Targeted Planning and Control of Public-Private Partnerships in sphere of Re-search», 2003;
- collective work under aegis of the Association for the Coordination of Planning and Stimula-tion the Development of Science in Germany «Recommendations to Public-Private Partner-ships acting in sphere of University Medical Research», 2007;
- F. Dornbusch, «Public-Private Partnership as a New Form of Strategic Cooperation between Business and Science in sphere of Research: Germany's Experience and after-effects for carriage of Regional Innovation Policy», 2007.

In Europe, the current scientific and technical programs are focused on conducting of funda-mental research and demonstration projects realization aimed at solving socially significant problems. In addition to direct financing, there is a system of subsidies, tax incentives. For the program implementers is given the assistance of innovation centers and techno parks is provided.

In Germany, public private partnership in research and innovation sphere is defined as co-operation between a government-funded, science and private business that goes beyond the individual research projects implementation and is characterized by long-term institutionaliza-tion, association of interacting parties resources, the parties aspirations to achieve aims, that complement each other and joint participation of parties use of profits and coverage of losses.

By the beginning of 2010s, there were at least 20 independent research organizations in Germany (that model of public private partnership, which is characterized by maximum closeness and formalization of cooperation between partners). There are two main financing forms for these organizations:

- starting financing is provided by private business, then it is implemented by university and firm (firms) on a parity basis,
- the university provides placements, the firm (firms) - pay staff costs and other current spending.

The leading body for public private partnership in sphere of research and innovation is the Federal Ministry of Education and Research, which released a regulatory document in

2011 - the main directions for realization the stimulating program «Research Campus - Public Private Partnership in sphere of Innovation».

Acceptance of applications for state subsidies within the federal program framework «Re-search Campus - Public-Private Partnership in sphere of Innovation» ended on February 15, 2012; the first competition results were announced in September 2012. From the 90 applica-tions received, the jury, under the presidency of the German Academy of Technical Sciences president H. Kagermann, and the President of the Leibniz Society, E. Richel, determined ten winners. Based on the average ten-year period of public private partnership implementation and the annual sum of subsidies of 1-2 million euros, each winning partnership will receive up to 20 million euro from the Federal Ministry of Education and Research [9].

Norway's experience in financing R & D and the state and business interaction in the energy sector is indicative. The State Research Committee of Norway participates in the R & D cata-log formation, carries out funding for R & D, which universities and institutes carry out to further their application in the industry.

The Research Committee of Norway mainly performs R & D financing for the following four main programs:

• «EFFEKT» - research project in the field of energy exchange with other countries and net-work monopolies study. The main objective of this project is to increase the profitability of companies in the electricity industry in Norway;

• «NYTEK» - research in the field of effective technologies with the renewable resources use;

• «SAMRAM» - socio-economic and environmental aspects studies of the electric power in-dustry functioning in Norway;

• «General research in the field of energy» - fundamental research of energy production and consumption [9].

Non-governmental research and development financing is carried out at the expense of funds attracted by the Federation of Electricity Industry of Norway («EnFo») from business structures. This organization coordinates demand for R & D in the industry. Every year the Federation issues a catalog in which R & D is presented, requiring additional co-financing, as well as new projects planned for implementation. Participants in the Federation of «EnFo» are companies in the electricity sector of Norway, express their opinion on the financing of those R & D projects, that they consider most relevant.

State funding provided by the Norwegian Research Committee is intended not only for the four main areas of the electricity sector mentioned above, but also for financing other R & D programs is represented in the directory of the Federation of Electricity in Norway.

Along with direct budget allocations for the financing of R & D in Norway, various state, public and private funds are widely used (the Foundation for the Development of Research and Development in Industry, the Football Fund, the funds of F. Nansen, A. Jare). Norway main-tains scientific links with many countries all over the world and it is a member of more than 50 international and regional scientific organizations. Through the funds system, provided financial of R & D, in which representatives of large foreign business in Norway, for example, Alcatel, Siemens, ABB, Statiol, and others are participate [7].

France at the beginning of the XXI century held innovative reform, creating the Agency on Innovation and investing about half a billion euros in it [6]. Simultaneously, interaction between participants in innovation activity was facilitated, namely, employees of higher educational institutions were able to share in the work of small innovative enterprises, combining it with teaching and other activities.

In France, the state is investor number one, which realizes more than 80 programs, including the development and supply of weapons and military equipment systems, and more than 300 projects, the development and supply of innovative technologies, including weapons, is state. Annual government contracts orders are implemented for a total more than 10 billion euros, 25 % of which are weapons programs in the framework of European cooperation. In June 2008, strategic priorities for defense and security for the next 15 years were clarified in France, the «White Paper on Defense» is French doctrine on defense and

national security. By 2020, 377 billion euros are planned to be spent on the provision of the French Armed Forces, of which 200 billion will go for the acquisition of new military technique and equipment, including innovative developments [9].

In Japan, targeted programs are a means of stimulating new high-technology industries, such as electronics, robotics, information systems. They facilitate the conduct of scientific research in the business field of business in priority areas of the country. To this end, the program-targeted funding is indicative, while programs and topics define the basic directions of private business. Thus, the impact on innovative programs of enterprises was created, orienting private business on the development of strategically important technologies. The program-target method in Japan is a forecast combination of scientific and technological development with direct and indirect economy regulation measures.

A comprehensive approach is carried out to support innovation in Japan where the state:

• finances private companies engaged in R & D, subsequent the provision of a state order;

• participates in joint financing of R & D through various funds, attracting extra budgetary sources of funding.

For example, the Japan Center for Technologies finances, together with small and medium-sized businesses, the necessary fundamental and applied R & D [12].

For Russia, the issue of public-private partnership in the R & D field is an important element of economic development: the link between science and production, the formation of a com-petitive national research and development sector, and reaching a new level of innovative development. The solution of this issue is another question, how to make Russian business the main customer for R & D, considering that without economic motivation to impose even the best developments on business, it is almost impossible.

In Russia, a number of fundamental documents related to the development of scientific and technical sphere were adopted: «Policy framework of the Russian Federation in the Field of Science and Technology Development for the Period Until 2010 and Further Prospects», «Long-Term Scientific and Technological Development of the Russian Federation for the Period up to 2025», Federal Target Program «Research and development in priority areas of the scientific and technological complex development of Russia for 2007-2012», Federal Target Program «National technological base for 2007-201» and others. To implement them, specific legislative norms and mechanisms for interaction of innovative development partners are needed. These include economic and legal relations:

- between subjects of innovation activity arising in the course of its implementation in any field, regardless of the organizational and legal form of the enterprise;

- relations arising in the process of creation, industrial development, distribution and com-mercial use of innovations;

- relations arising when investing are implemented in innovation projects by Russian and for-eign investors.

The state dispose a fairly large arsenal of opportunities in the innovation sphere development on the partnership with business terms. Along with innovative projects financing it is necessary:

- to create preferential conditions for the innovation activities implementation and incentives for Russian and foreign investors participating in the implementation of innovative programs and projects in accordance with the procedure of establishing by federal legislation;

- to organize purchase for state needs of science-intensive products, technique and newest technologies;

- to place state orders on implementation of science and research, development and tech-nological works;

- to assist the innovation activity infrastructure development;

- to create conditions for the professional development of specialists in the field of manage-ment and international cooperation in innovation sphere.

To solve all these problems, it is necessary to remove existing contradictions and gaps in cur-rent legislation.

Conclusion. Proceeding from all the above, it can be concluded that the public-private part-nership mechanism has become widespread in sphere of R & D in developed countries. In the context of public private partnership programs, technical training and research networks are being created, grant support for the development of new commercially oriented technologies is provided, through systems of industry development assistance. Within the framework of strategies for economic development of regions, the authorities integrate federal laboratories, universities, industrial consortiums, testing and certification centers into a single innovation cycle. Partnerships and joint programs take into account the possibilities of new technologies, the need for new markets, the financial opportunities and management necessary to succeed in these markets.

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THE INTERNATIONAL MIGRATION TRENDS

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ABSTRACT
Migration is one of the most complex social phenomena. Usually migration flows are from less developed countries to more developed countries and, where there are quite favorable socio-economic conditions, namely - developed infrastructure, more high level of wages and working conditions, availability in the region affordable housing, transport accessibility, etc. Equilibrium in the labor market, reproduction of labor is a necessary condition for the full development of the economy. However, the available labor potential does not always correspond to the level of economic development orientation, so overcoming the deficit or excess of labor is the foundation in a dynamically developing economy, regardless of the type of socio-economic system. The analysis of the main trends in international migration is presented in the article. The changes in migration movements and in the foreign population of OECD Member countries are examined.

KEY WORDS
Labor, market, migration, OECD.

Regular migration can have positive demographic, economic and fiscal impacts for host countries. Migrants accounted for about half of the increase in the workforce in the United States and 70% in Europe over the past decade. They add human capital to host societies, but also bring new skills with them when they return or contribute as investors or entrepreneurs to the economy of their origin country. Available evidence also shows that in most countries migrants pay more in tax and social contribution than they receive in individual benefits. The magnitude of migrants' contribution however depends on the recognition and use of their skills in the labor market and more broadly on their labor market integration. Better integration outcomes are also a precondition for capitalizing on the migration-development nexus as there cannot be a positive impact of migration on origin countries unless immigrants are safe and making a decent living where they live. It is also conditioned on the capacity of the international community to fulfill its commitments in terms of reducing migration and remittances costs. The G20 Labor and Employment Minister's declaration paves the way for better policies and better integration outcomes for migrants.

Over 1 billion people in the world are migrants, or more than 1 in 7 people globally. The figure includes the stock of international migrants people residing in a country other than their country of birth whose number reached 244 million in 2015, up by 41 per cent since 2000; and it includes internal migrants around 740 million, 150 million are rural urban migrants in China. About 51 per cent of international migrants reside in 10 countries. The most popular destination country is the United States, where 46.6 million foreign-born officially resided in 2015, followed by Germany (12 million), the Russian Federation (11.9 million), Saudi Arabia (10.2 million), the United Kingdom (8.5 million), the United Arab Emirates (8.1 million), Canada and France (7.8 million each), Australia (6.7 million) and Spain (5.8 million). The top five countries by size of their diasporas (number of international migrants living abroad) in

2015 were India (15.6 million), Mexico (12.4 million), the Russian Federation (10.6 million), China (9.5 million), and Bangladesh (7.2 million).

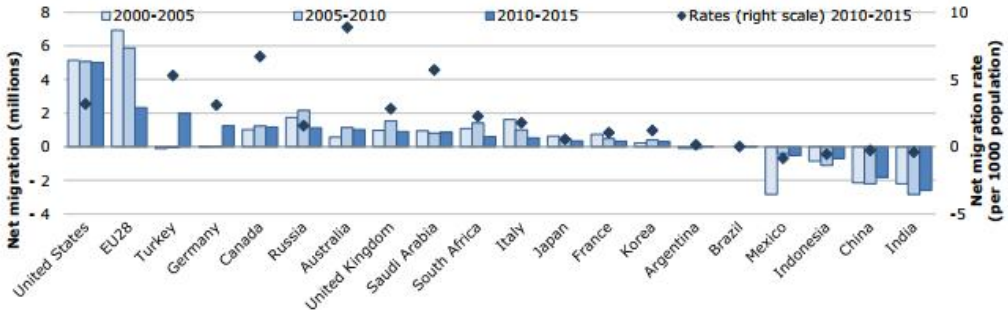

Figure 1 – Net migration to G20 countries, 2005-2015

The role of many countries and regions in the global migration order may fundamentally change over the coming decades, with some of the current major emigration countries potentially transforming into major destination countries. There is substantial evidence that as countries become integrated into the global capitalist economy they tend to go through migration transitions. It is particularly hard to predict whether these trends will continue, given that since the beginning of 2001 economic activity has experienced cyclical shocks of varying scales.

Parallel with broader demographic and economic transitions, several middle-income sending countries in North Africa and the Middle East (e.g. Turkey, Tunisia and Morocco), the Americas (e.g. Mexico, Brazil) and Asia (e.g. China, Thailand, Malaysia) may become major immigration countries, while the capabilities and aspirations increasing effects of human development in the poorest countries (such as in sub-Saharan Africa and South Asia) might boost emigration from these countries. This raises two fundamental questions: (1) how will population ageing and evolving economic dynamics affect the global demand for migrant labor and (2) where will future migrants come from?

Sending countries, in stark contrast with receiving countries, have increasingly linked migration to human development. The development impacts of migration are more positive in some cases and neutral or negative in some other cases. In fact, there is no automatic mechanism through which migration leads to more development. For instance, the migration of educated workers can deprive origin countries from the skilled labor that is essential for achieving sustained economic growth. Yet, there is a lack of systematic understanding of the complex interaction between these factors. Therefore it is necessary to better conceptualize the nature and relative weigh of migration uncertainties.

As shown in Figure 1 there are different layers of complexity in migration processes. While some factors can be considered as more or less exogenous, other factors are rather endogenous because they do not only affect migration, but are also affected by migration processes itself. These internal dynamics of migration processes (such as network formation) create feedback mechanisms which can give migration processes their own momentum (de Haas, 2008). With regards to model uncertainties, despite the progress made in recent decades, our understanding of the nature, drivers and feedback mechanisms underlying migration processes is still limited.

The above examples reveal two major uncertainties in our thinking about future world migration. First, model uncertainties are related to the still limited theoretical understanding of how social, economic, cultural and political factors affect the volume, direction and nature of migration. Second, contextual uncertainties pertain to the constantly changing macro-contextual situation in which migration occurs. In other words, this pertains to the direction the main factors affecting migration are likely to evolve in the future.

While we are familiar with a range of regularities in various spheres of social life, we remain largely uncertain about how future social, economic and political change will affect the contextual environment in which future migrations will take place. In order to imagine how

such migration futures may look like, it is essential to think beyond current migration models and trends, and to become creative in imaging which fundamental changes on the global and international level may alter the macro-structure within which migration takes places. Such social, economic and political transformations may either confirm or invalidate (or both) the models with which we currently analyse migration. In other words, for a successful exploration we need to think "out of the box" and to conceive what we find difficult to imagine within the current context. For instance, it is often implicitly assumed that there is a quasi-unlimited supply of cheap labor in developing countries ready to migrate to the West. The question is whether this assumption will hold in the future in view of global demographic change and economic growth in many developing countries.

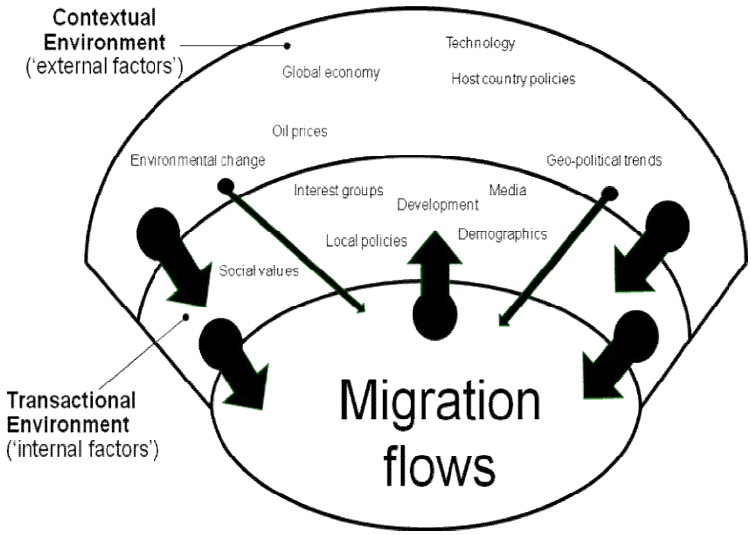

Figure 2 –Levels of Impacts and Feedback in the Migration Process

The west European experience with „guest-workers" is a case in point for the difficulty to perceive significant structural change and the discontinuities from past migration trends such transformations tend to cause. In the 1960s, the presumably "temporary" workers from Mediterranean countries were expected to return to their origin countries after a few years of work in Western Europe. The 1973 Oil Crisis sent shockwaves through European economies and formed the onset of a long period of economic recession, economic restructuring and rising unemployment, which also heralded the end of labor recruitment and the instauration of progressively restrictive immigration policies. However, the consequence was not a massive return or declining migration. Rather, as presented in Figure 2, many former „guest workers" decided to stay put in Europe, rather than face much more arduous and uncertain circumstances in origin countries. In addition, immigration restrictions paradoxically pushed migrants into permanent settlement. These processes set in motion large-scale family migration. As Max Frisch famously said "we wanted workers, we got people" or in Philip Martin"s own terms "there is nothing more permanent than temporary foreign workers" (Martin, 2001).

The guest worker case exemplifies that migration policies are often developed without sufficient consideration of the wider national and global context in which migration occurs, and how future changes and related sources of uncertainties in global demography, economic growth and environmental change may affect migration patterns in the long term.

Conventional approaches exploring the future of migration include the use of statistical analysis to analyze the previous trends, making assumptions about the main relationships with key "independent" variables and forecasting migration flows into the future. However, such approaches have several limitations. First, we must assume that the structure of our model remains the same across time. The structure is the relationship between migration and its main determinants. Second, the lack of data for many migration corridors often implies that parameters of projection models must be estimated using historical migration

data for other countries. This obliges one to assume the structure does not change across countries and over time.

Nonetheless, even when there is data available, we still face significant model uncertainties because of poor theoretical understanding of the complex, multi-level drivers of the migration process. As a result of these limitations, too often future migration trends are explored using simple projections of current trends without taking into consideration future cultural, economic and environmental change on the global level. Such factors are likely to lead to fundamental changes in the direction, volume and complexity of international migration, but cannot be easily accounted for using traditional forecasting methods.

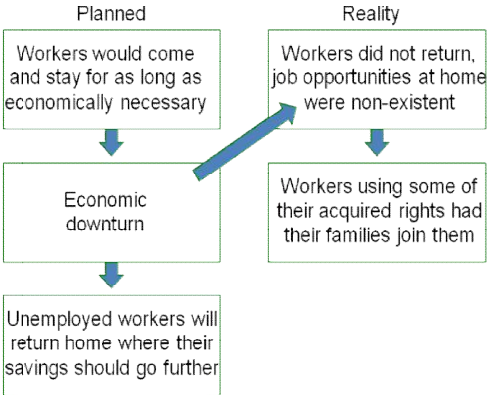

Figure 3 – The Planned and Actual Result of the Guest-Worker Programs.

Therefore, the general objective of the Global Migration Futures project is to explore future global and regional migration trends and their effects on European receiving countries and sending countries mainly located in Africa, Asia and the Middle East through the elaboration of scenarios. These scenarios will take into account future social, cultural, economic, political, demographic and environmental changes. In order to encourage innovative thinking about the future of migration, our distinctive methodology seeks to actively involve non-academic „stakeholders" (from business, policy, civil society, and elsewhere) in the development of scenarios.

Demographic factors, including geographically differentiated fertility levels and age structure are likely to have both an indirect and direct effect on the future of global migration. By implications, global and regional shifts in longevity, fertility and gender relations are likely to affect the global supply and demand for migrants. Such analysis has to be gender specific. For instance, among other things, the ageing process across wealthy countries, prolonged education and increased labor market participation of women have increased the demand for caregivers and various types of, often informal, labor. Concomitant changes in their labor market partly explain the increase in the number of independent female labor migrants. To add a further layer of complexity, the decrease in fertility rates seems to be a rather universal phenomenon. It can therefore be argued that the worldwide decrease in fertility rates may significantly reduce the relative (to demand) global and national supplies of high and low skilled labor migrants, potentially leading to generic wage increases of migrants. This may increasingly question the assumption underlying current migration models that there is a quasi-unlimited supply of cheap foreign labor (Piore 1979). The long-term effects of these two contradictory forces on the size of international migration remain unclear.

Economic factors, particularly international and national labor market structures and the future structure of global income and other opportunity differentials, are likely to exert a profound influence on future migration, although the direction is difficult to predict because of fundamental model uncertainties. We can only achieve an improved understanding of migration patterns by going beyond crude comparisons of mean income differentials, by considering the internal structure of economies and labor markets. For instance, labor markets are not homogeneous, but highly segmented. This can explain a sustained demand for migrant labor in particular segments of the economy, even under conditions of high formal

unemployment and economic recession. In the past decades, particular sectors such as agriculture, construction, cleaning, gardening and catering have increasingly attracted migrant labor. However, depending on the nature of future changes in the global economy, migration might be affected in various ways. Trade and the outsourcing of economic activities to low-income countries may also have a decreasing effect on migration, and partly counterbalance the migration-facilitating effect of technological progress. At the same time, however, future economic growth in the poorest countries, for instance in sub-Saharan Africa and South Asia, can paradoxically have a migration-increasing effect because income increases may allow more people to migrate over large distances. Contextual factors are therefore sine qua non for understanding the shifting relation between economic factors and international migration.

The policy environment obviously exerts an important influence on migration. An emerging literature has demonstrated that migration policies significantly impact on the volume, directions and nature of international migration, although not always in the direction intended by politicians. For example, the relative increase of irregular migration over recent decades illustrates the limitations of policies to reduce migration along established migration corridors and, in turn, the shifting capacities of state to enforce entry and exit rules. Under such conditions, and particularly if economies of receiving countries are thriving, restrictions are more likely to influence the nature

Environmental factors are also frequently ascribed as having an important role on migration processes. Localized forms of environmental degradation (for instance, land degradation in semi-arid environments) and future global warming are often assumed to significantly affect global migration. Nevertheless, the existence, volume and directions of such effects are in fact highly contested. Some analysts believe that such crises may cause large-scale forced migration, creating international tensions and threatening social cohesion. But there is little empirical data on the coping strategies adopted by local communities as their environments change.

Between 2015 and 2016, the number of refugees in the 28 European Union countries increased by 273,000 to 1.6 million. During the same period, the number of refugees worldwide increased by 1.4 million, to 16.5 million. However, the European migration crisis appears to be abating. The number of people making the dangerous crossing to Europe has fallen from the record high in 2015. Yet, the fundamental drivers of distress migration persist.

Remittance flows were impacted by weak economic growth in Europe, the Russian Federation, and the Gulf Cooperation Council (GCC) countries (cyclical factors), and exchange controls, burdensome regulations, and anti-migrant policies in many countries (structural factors). Remittance flows, especially to South Asia and Central Asia, were affected by low oil prices and weak economic growth in Russia and the GCC countries. Weak growth in Europe also affected flows to North Africa and Sub-Saharan Africa. The weakening of the euro, the British pound and the ruble against the U.S. dollar further accentuated the decline in remittances in U.S. dollar terms. Remittance flows to the Europe and Central Asia (ECA) region registered a significant decline for the third consecutive year; these flows have fallen by 30 percent since 2013. Latin America and the Caribbean (LAC) was the only region to register an increase (6.9 percent) in remittance flows, supported by strengthening employment levels in the United States.

Although the overall remittance trend for developing countries was negative in 2016, the regional picture was more varied (table 1.1). The East Asia and Pacific (EAP) region registered a 1.2 percent estimated decline in remittances in 2016, compared with 3.8 percent growth in 2015. Although flows to the Philippines remained buoyant, Indonesia saw a decline induced by new emigration restrictions. The South Asia region (SAR) witnessed an estimated decline of 6.4 percent in 2016. India, the largest remittance -receiving country

While labor migration is a universal phenomenon, some regions have far higher proportions of migrant workers relative to all workers: over one in three workers are migrant workers in Arab States, and about one in five in Northern America as opposed to 0.6 per cent in Eastern Asia (including China), and 1.5 per cent in Southern Asia (including India), Northern Africa and Latin America and the Caribbean. Close to one in five migrants in the

world live in the top 20 largest cities globally, according to IOMs World Migration Report 2015; the report also found that in many of these cities migrants make up at least one third of the total population, and that migrants tend to concentrate in global cities for instance almost 50 per cent of Canada's foreign-born population lives in Toronto.

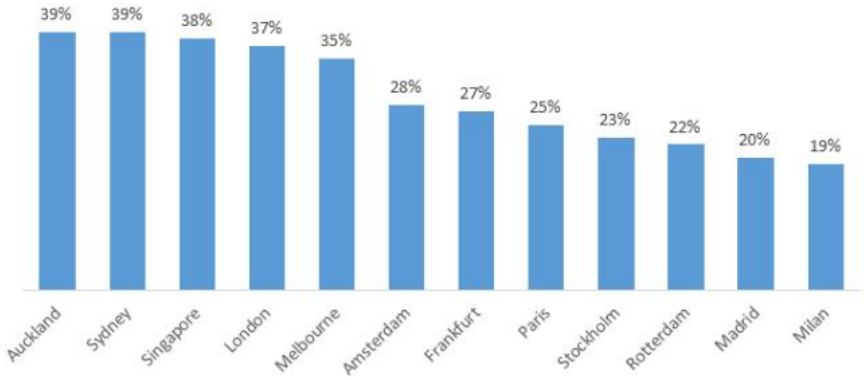

Figure 4 – Foreign born population in major cities

Furthermore, some countries, the U.S. being an example, are ideologically committed to open borders because their national identities are imbued with long histories of immigration. Those countries that haven't historically experienced immigration, primarily in Europe, tend to be less open to immigration. In these instances, social conflict may develop between native citizens and new arrivals, which may be understood as "polluting" national culture. It should be noted that regardless of their histories of immigration, the majority of migrant-receiving states tend to experience some backlash to large waves of immigration. On the other end, migrant-sending nations often benefit from remittances that result from higher wages in emigrant destination countries. However, these nations tend to experience "brain drain" of qualified and educated professionals, which negatively impacts their populations as well as their economic development.

Nevertheless, migration will continue to be a major, unstoppable factor of global life until the different push and pull factors associated with migration, including economic disparities between sending and receiving states are eliminated. Even as governments have attempted to limit cross-border flows of goods, services, capital and migration, the smuggling of human beings and resulting populations of illegal immigrants in both developed and developing nations have assumed a growing importance. Concerns over undocumented immigration have been tempered by the need for migrant labor, specifically in developed nations, as well as the existence of growing refugee populations, further complicating the creation of efficient migration policy. Dealing with both legal and illegal immigration, then, is one of the pressing issues facing governments and societies across the world.

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MESSAGES OF LOGO CHANGE ON INSTAGRAM'S BRAND IMAGE

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ABSTRACT
Logo is a symbol representing the image of a company, something that shows the existence of a company; while rebranding is an attempt performed by the company to change totally or renew an existing brand in order to become better, rebranding i*s* frequently identical with a brand logo change. In 2016, *Instagram* logo changes from the iconic with the white-brown polaroid to a simpler design but with a strikingly visible color. Change in the company's logo can have a positive or negative impact on the company's brand image. The objective of this study is to determine what message obtained from the logo changes made by *Instagram* brand image. On the other hand, this research method uses qualitative methods and semiotic analysis of Charles Sanders Peirce with data collection techniques using non-structured participatory observation techniques. The results show that the selection of colors and simple form used in the latest *Instagram* logo has strengthened the impression of spirit, dynamic, and transformation in a good direction on the brand image.

KEY WORDS
Communication, *Instagram*, logo, rebranding, semiotics.

In 2016, precisely on May 11, 2016, *Instagram* changes its iconic logo in the form of polaroid colored white-brown into a logo with a design that appears more colorful and visible with a blend of orange, white, orange, and pink, (Librianty, 2016). This logo changes according to Head of Design of *Instagram*, Ian Spalter, is to present designs that are more in line with the application's aesthetic users and create something that represents the spirit and diversity of the stories that *Instagram* makes, (Librianty, 2016). It is not the first time that *Instagram* has changed its logo look. The first logo of *Instagram* is more similar to an original camera and is created by Kevin Systrom, (Librianty, 2016).

Figure 1 – The First *Instagram* Logo

When *Instagram* application would be launched in October 2010, this initial *Instagram* logo is constrained because it is similar to Instant Polaroid OneStep camera whose design has a trademark; therefore, *Instagram* logo is changed inspired by 1950s camera, Bell & Howell designed by Cole Rise, a professional designer and photographer, (Librianty, 2016).

Figure 2 – *Instagram*-Cole Rise Logo

The second change of *Instagram* logo is done by *Instagram* to explicate *Instagram* evolution last 5 years, from *Instagram* which is just a photo sharing container filtered to become social media that is able to load video content and share message through *direct message*, (Librianty, 2016). *Instagram* is willing to make its product appear more modern and

more relevant with the ages, so that its product is not just be a place to share video, but it is more than that, (Librianty, 2016). This latest logo is designed by a content creator and photographer from Sao Paulo, Brazil namely Paulo del Valle, (Librianty, 2016). A number of applications released by *Instagram* such as *Boomerang*, *Layout*, and *Hyperlapse* also experience a change in logo design. The third logo also contains the 'mandatory' color scheme, which is purple, orange, and pink, (Librianty, 2016).

Figure 3 – *Instagram* Logo Change in 2016

Logo is a symbol representing the image of a company, something that shows the existence of a company, (Kelly, 2016). Logo is like to the face of a company, through the logo, there will be a trust towards the company and products produced by a company, (Kelly, 2016). Change in the logo in a company can affect people's perceptions of the image and the identity of a company, (Kelly, 2016). Change in the company's logo can have an impact both positive and negative, (Kelly, 2016). If it is positive, then the trust towards the company is increasing and if it is negative, it will make a decline of image or company image, (Kelly, 2016).

Research Problems. From the background aforementioned above, it can be known that the change in logo is not only about corporate identity, but it is also related to the brand image. Not a few companies that change the logo, but they get a poor response from consumers. Companies need customer feedback to see how well the logos are made as well as what consumers think when they see the logo. From the problem formulation above, then the problem that will be formulated is what is the meaning of *Instagram* logo changes to *Instagram*'s company image?

In accordance with the problem of this study, then the objective of this study is to know what message of *Instagram* latest logo changes to company's image.

METHODS OF RESEARCH

In this study, the researcher uses the type of qualitative research. In qualitative analysis, the observed signs are not or cannot be measured systematically. Qualitative method does not rely on evidence based on mathematical logic, numerical principles, or statistical methods (Mulyana, 2001). In addition to qualitative analysis, the researcher also employs semiotic analysis method. Because by using semiotics method, the researcher can know the signs and symbols that exist on the latest *Instagram* logo (Sobur, 2006). The signs are analyzed and interpreted by using Charles Sanders Peirce semiotic method.

Data collection techniques used by the researcher is the technique of unstructured non-participatory observation. According to Meleong (2014), this non-participatory observation is the observation that only performs one function that is observing and not doing anything else that may affect the observed condition and does not disturb the structure of the unit of analysis. The researcher analyzes the *Instagram* logo by using the triangle meaning of Charles Sanders Peirce. The results of the overall analysis that the researcher do will be used to answer the main problem of research.

LITERATURE REVIEW

Theory of Semiotics. Terminologically, semiotics is a branch of science that examines signs and all things associated with signs, such as sign systems and processes that apply to

signs, (Van Zoest, 1993). Semiotics is the study of a vast array of objects, events, and all cultures as signs, (Van Zoest, 1993). Sign, at that time, still means something that is pointed to the existence of something else. Semiotics is the science that learns about sign; the functioning of sign and production meaning of the signs convey information, so that it is communicative, (Van Zoest, 1993).

Based on its object, Peirce divides signs on icon, index, and symbol, (Van Zoest, 1993). Icon is the relations between sign and object or reference that have similarities. Index is a sign that directly refers to reality, (Van Zoest, 1993). Symbol is the sign that indicates the natural relationship between the marker and its signature, (Van Zoest, 1993). The interesting concept is expressed by Pierce related to the sign and interpretation of the sign associated with logic, (Tinarbuko, 2008). It is named as a triangle mark between *ground* (sign), *denotatum* (object), and interpretant. *Ground* is the basis of the sign, generally in the form of a word, (Tinarbuko, 2008). *Denotatum* is a sign of reality. *Interpretant* is an interpretation of the reality that is in the sign, (Tinarbuko, 2008).Where the three concepts are put into logic again into several parts of each interpretation of the terms of logic (Tinarbuko, 2008).

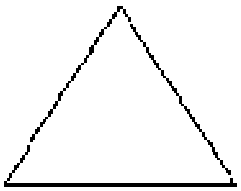

Figure 4 – Triangle of Charles Sanders Pierce Sign *Object Interpretant* (Source: Tinarbuko, 2008)

Based on *interpretant*, sign (*representamen*) is divided into *rheme*, *dicent sign* or *dicisign* and *argument,* (Sobur, 2006). *Rheme* is a sign that allows people to interpret by choice, (Sobur, 2006). For example, a blinking person may indicate that the person is just crying or suffering from an eye disease, or an eye entered by the insect, or just waking up, or wanting to slee,p (Sobur, 2006). *Dicentsign* or *dicisign* is a sign of reality. For example, if on a road there are frequent accidents, then on the side of the road traffic signs are posted stating that there are frequent accidents, (Sobur, 2006). *Argument* is a sign that directly gives a reason for something, (Sobur, 2006).

Based on these various classifications, Peirce divides sign into ten types, (Sobur, 2006):

- *Qualisign*, i.e. the quality to what extent of the mark has. Hard word indicates sign quality.
- *InconicSinsign,* i.e. a sign that shows similarities.
- *Rhematic Indexical Sinsign*, i.e. a sign based on direct experience which directly attracts attention because its presence is caused by something.
- *Dicent Sinsign*, i.e. a sign that provides information about something.
- *Iconic Legisign,* i.e. a sign that informs the norm or the law.
- *Rematic Indexical Legisign*, i.e. a sign that refers to a particular object.
- *Dicent Indexical Legisign*, i.e. a sign of meaningful information and pointing to the subject of information.
- *Rhematic Symbol* or *Symbolic Rheme,* i.e. a sign connected to its object through a general idea association.
- *Dicent Symbol* or *Proposition* (porposition), i.e. a sign that directly connects with objects through associations in the brain.
- *Argument*, i.e. a sign that is a person's judgment of something by reason.

Etymologically, the logo comes from the Greek word *"Logos"*, meaning word, thought, speech, and reason (Kelly, 2016). According to Kelly (2016), logo is an image depicting the name of the brand, the logo acts as the face of the brand that makes the brand performance. Logo is a visual interpretation of the quality communicated from the brand (Kelly, 2016). According to (Adams, 2008), the performance relates to the business logo or product. An effective logo should have the following requirements, (Adams, 2008):

- Unique and attractive to market target.
- Be able to describe the nature of the product business, or service. It can be interpreted in two ways: literal and abstract.
- Not easily obsolete or out of date due to time shift.
- Applicable in all potential communication contexts.

Color is a particular spectrum contained in a perfect white light, (Kusrianti, 2007). Initially, color was firstly discovered by Isaac Newton in 1660 by using the source of sunlight and prism as a light reflecting device. From the reflection, red, orange, yellow, green, blue, indigo and purple arisen which are later known as the spectrum arrangement in light, (Kusrianti, 2007). Theory and color recognition have been widely exposed by experts, including as follows (Kusrianti, 2007):

- Color Theory of Newton: The idea begins with a circle representing only three primary colors (red, blue, and green) derived from the additive color system.

The primary color is the color that guides everyone to use it. In the use, main color has two kinds; for graphics, the color used is a pigment consisting of blue (cyan), Red (magenta), and Yellow (yellow). In photographs and computer graphics, the primary color of light consists of red, green, and Blue (RGB). In Computer, the colors are cyan, magenta, and yellow are still added with color key (black), so that CMYK term is known.

The secondary color is a mixture of primary colors. Red and blue produce purple, red and yellow produce orange as well as yellow and blue produce green.

The tertiary color is a mixture of the secondary with the primary colors.

- Color Theory of Munsell: The importance of color role for human makes colors often used as aesthetic elements, as representations of nature, colors as communication, and colors as expression.

Color as an aesthetic element: the color plays itself as "color", which has a function in shaping a beauty.

Color as a representation of nature: the color is a depiction of the object nature in real, or in general, the color is able to describe the nature of objects in real.

Color as a communication tool or representation function: color places itself as part of a symbol. Color is a symbol a tradition or pattern.

Every color in the use of logo design has its own meaning that characterizes its company, (Harianto, 2015). The meaning of those colors is (Harianto, 2015):

- Black is generally associated with elements of strength, elegance, and formality. On the other hand, it can be attributed to evil, death, and mystery.
- White is a color that reflects purity, cleanliness, and virtue, generally regarded as a neutral color.
- Gray is a neutral color; it is generally conservative and formal, but it can also be modern. This color is frequently used in design firms, where formalities and professionalism are the keys.
- Brown is a color associated with dependence, reliability, fortitude, and also groundedness.
- Red is the color associated with fire, violence, war, love, passion, and spirit.
- Orange is a very vibrant color, representing change, movement, vitality and energetic.
- Yellow; this color is often associated with happiness, hope, excitement and it can be used in designs where a sense of eternity is to be highlighted.
- Blue, this color is often associated with sadness, tranquility, peace and responsibility. Dark blue reflects strength and reliability.
- Purple; this color is associated with creativity and imagination. Dark purple is traditionally associated with wealth and royalty, while bright purple is more romantic.
- Green is a color giving calming, fresh, and relaxing effect.
- Gold has the meaning of achievement, success, luxury, victory, and prosperity. It is just same as gold in physical form which becomes a precious commodity as well as a prestige in every country.

- Tosca/turquoise has the meaning of emotional balance, stability, tranquility, and patience as well. Tosca color is believed to give the spirit when a person is mentally stressed or exhausted and is also seized with a sense of loneliness.
- Magenta is a blend of red and purple. The content of red color meaning spirit, strength and energy is restrained by the calm energy of violet color, so that it creates a balance. It has a philosophy of change or transformation. The change from unhappiness, frustration and anger to a better direction.

Shape is one of the basic elements in logo design. Certain shape or line can convey a universal meaning seen and provide an understanding of a purpose, (Kusrianti, 2007). There are three basic types of shape, namely geometric, natural, and abstract, (Kusrianti, 2007).

- Geometric Shape: structured and generally symmetrical. For instance rectangle, circle, triangle, seven-angle, eight-angle, and cone.
- Natural Shape: natural or organic shape can be found in nature or it can also be man-made. For example leaves or water droplets.
- Abstract Shape: a natural shape in a simpler or more stylish version. The shape of the abstract has a recognizable shape, but it is not real. For example a wheelchair shape symbol for access for people with disabilities.

Here are some meanings of the basic shapes (Kusrianti, 2007):

- Circle gives a dynamic, rotational, velocity, repetitive, uninterrupted, no beginning or ending, eternal, quality, dependability, perfect, and life impression.
- Box and rectangle show honesty and stability.
- Triangle represents dynamic pressure, action and aggression. Triangle can be used to convey developments, directions, and goals.
- Spiral is expression of creativity. It represents trust during change and maintains flexibility through transformation.

CONCEPTUAL FRAMEWORK

Rebranding is an attempt done by a company to completely change or renew an existing brand in order to become better by not ignoring the company's initial goal, i.e. profit-oriented, (Febriansyah, 2013). Rebranding as a brand change is often identical with a brand's logo changes (Febriansyah, 2013). In other words, when doing rebranding, then what changed is the values in the brand itself (Febriansyah, 2013).

The logo change *(rebranding)* itself has the steps namely *definition-develop-design-deliver,* (Febriansyah, 2013). With the change of logo, it can be seen directly that form or logo design, font, color, and tagline are different from previous logo, (Febriansyah, 2013). According to Shimp (2003), whatever form of logo selected, then the logo must be seen (eye-catching) and unique or different; meaning that when consumers see the logo, then the consumer's memory will be directly addressed to the brand and not to other things that may be similar or identical to the brand which is visualized in the logo. If the logo is similar to the competitor's logo, then it will cause problems, (Shimp, 2003). In which in this case, the consumer would be more likely to brand competitors or even competitors will provide accusations of plagiarism, (Shimp, 2003).

According to Kotler (2005), image is a set of beliefs, ideas, and impressions owned by a person against an object. Image is a set of ideas and impressions used by someone about an object (Sulaksana, 2003). Understanding the image itself is recognized as abstract or intangible, but its form can be felt from the results of good or bad assessment (Sulaksana, 2003). It is such as acceptance and response both positive and negative (Sulaksana, 2003).

DISCUSSION OF RESULTS

The form used in the latest *Instagram* logo is a simplified version of the camera form, so there are only 2 blunt-edged bridges (curved lines) and one circle in the middle.

Table 1 – The colors used in the *Instagram* logo

Color	Meaning
	The purple color in this logo reflects *Instagram* supporting its users to be more creative in every photo upload (Harianto, 2015).
	The magenta color has a philosophy of change or transformation (Harianto, 2015).
	This orange color represents the *Instagram* company that continues to keep excited and following the changes that occur (Harianto, 2015).

The box form used by *Instagram* in its latest logo would give the impression that *Instagram* company is a stable company, and the company symbolizes its dynamism by giving a curved line at the ends of the box, the shape of the circle that is in the middle of the box symbolizes the company which is not only stable, but it is also reliable, (Kusrianti, 2007).

CONCLUSION

In general, this present study aims to analyze and to describe the meaning of the signs contained in the *Instagram* logo. The signs are analyzed and interpreted by using Charles Sanders Peirce semiotic method, and based on the results of the research which have been described in the discussion, it can be concluded as follows:

Signs in the *Instagram* logo, the shape, and the color are in accordance with the brand image of *Instagram* company attempted to be represented through the logo. The use of magenta color on the *Instagram* logo represents *Instagram* transformation into a better application in sharing photos and videos. The three main colors in the latest *Instagram* logo are very representative regarding to *Instagram*'s willingness to transform, excitement, following the latest trends and increasingly becoming a place for users to be more creative. On the other hand, shapes of of box and circle reflect *Instagram* as a stable, dynamic, and reliable company.

Figure 5 – *iTunes & Podcast* Logo

Critique: The too-simple *Instagram*'s latest logo makes it not looks special compared to the previous logo. The colors used in the latest *Instagram* logo at a glance look similar to the logo of *iTunes* and *Podcast*, so that when users search for this application on their smartphone screen, then *Instagram* logo does not stand out.

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HOUSING REHABILITATION PROGRAM FOR POOR FAMILIES IN SUBURBAN AREAS: EVALUATION OF THE REGULATION OF THE SOUTH BARITO REGENT #8 OF 2015

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ABSTRACT
Poverty is a social issue that continuously challenges the government of Indonesia to find its solution. Since the enactment of regional autonomy, anti-poverty programs should not only run by the central government, but they are also under the responsibility of both provincial government as well as district government. The government of Central Kalimantan runs an anti-poverty program namely *Mamanguri Tuntang Mahaga Lewu* (PM2L) which puts the improvement of basic facilities into the priority including the housing rehabilitation program. In order to implement the program, the government of South Barito has arranged a technical guideline to run the program as stated in the Regulation of South Barito Regent #8 of 2015 about the Guideline of Housing rehabilitation Program for Poor Families in Suburban Areas PM2L of 2015. This evaluation study is a descriptive study, employing a qualitative research approach. The result of this study shows that the program has not yet optimally administered since there was no certain standard operating procedure available and some activities were not done within the arranged schedule. Fortunately, the result of the housing rehabilitation program has been considered optimal for it has fulfilled all of the criteria set in this study. The program has brought direct effect - rehabilitated poor families' houses, and indirect effect - improving the neighborhood's awareness to help each other. Besides, the families were required to provide some additional money to rehabilitate their houses.

KEY WORDS
Policy evaluation, housing rehabilitation, poor families, suburban areas, PM2L.

Poverty continuously appears as a social issue that needs solution from the government of Indonesia. Amatya Sen (in Anggraeni, 2009) stated that poverty should not be seen only from the low income earned by the people since poverty refers to a condition in which a family is unable to provide the basic necessities to fulfill the basic function in a society. It implies that poverty includes low income to fulfill the proper food, clothes, and house, and inability to afford health service, proper education, political participation or any social function.

Based on the data released by the Central Bureau of Statistics (2015), Indonesia has its number of population increased from 238.5 millions people in 2010 to 255.5 millions people in 2015 with population growth rate of 1.38%. One of the negative impact of the large population is the poverty. The poverty affects some aspects of life which eventually determine the quality of the human development including the education, health care, and welfare which include housing problems in Indonesia.

Generally, the need of housing program in Indonesia increases as the population grows larger, increasing the need of houses in every yet. Based on the report of the Budget Analysis and Implementation Bureau, *APBN-SETJEN DPR-RI,* the average number of the need of home is 930 units each year. Meanwhile, the capacity of the program has not yet been able to keep up with the growth. The central of Statistics Bureau in 2014 released the data of Indonesian backlog which was estimated to reach 17.2 millions units. In line with the statement of Suyanto (2015), the anti-poverty program has not yet been able to provide satisfying progress.

Since the enactment of regional autonomy, anti-poverty program is run by not only the central government, but also the regional government, especially in implementing the

housing rehabilitation program. In order to implement the housing rehabilitation program, the government of South Kalimantan created a program namely *PM2L* which focuses on improving the basic facilities including the housing rehabilitation program. The government of South Barito District has arranged the guidelines of *PM2L* implementation that covers improvements of basic facilities, education access, health care services, society welfare, and society development. The housing rehabilitation belongs to the sub program of the improvement of basic facilities program that provides housing service for poor families in suburban areas.

The budget for housing rehabilitation program in 2015 is as much as 600.000.000 rupiahs which is higher than previous years. This study focuses on the implementation of the housing rehabilitation program for poor families in 2015. The legal basis of this program implementation is the Regulation of South Barito Regent Number 8 of 2015 about the Guidelines of the housing rehabilitation program for poor family which is funded from the regional budget of South Barito District within the list of the Social Development and Suburban Government agenda or *Badan Pemberdayaan Masyarakat dan Pemerintahan Desa (BPMPD).*

Evaluation of a program should be initialized by the determination of problems that occurred during the implementation. There have been a number of problems that occurred in the implementation of housing rehabilitation program in South Barito 2015 including the uneven distribution of the aids to poor families in South Barito District and relatively small amount of money that was not yet enough to rehabilitate a house.

Based on the reasons above, it was necessary to conduct this study that intended at evaluating the housing rehabilitation program for poor families in South Barito. Regarding to the explanation, this study entitled “Evaluation of Housing rehabilitation Program for Poor Families in Suburban Areas (Evaluation Study on the Regulation of South Barito Regent Number 8 of 2015 about the Guidelines of Housing rehabilitation Program for Poor Families in Suburban Areas *Mamangun Tuntang Mahaga Lewu* in South Barito 2015)”.

Evaluation is a part of a policy making steps which are identification, implementation and evaluation. Without evaluation, the condition of an object before and after the implementation remains unknown. Tague-Sutclife (1996) identified evaluation as "a systematic process of determining the extent to which instructional objective are achieved by pupils". Evaluation is not merely an activity to spontaneously and incidentally score an activity, but it is also an activity to conduct a well-planned and systematic assessment with clear objectives.

In line with Nawawi (2009), evaluation refers to an activity to assess the success or failure of an organization or a unit in implementing their programs and functions.

METHODS OF RESEARCH

This study is a descriptive research using a qualitative approach. This study was conducted in *BPMPD* of South Barito District and in the houses of the poor families who received the housing rehabilitation program. The focuses of this study included: (1) the implementation process of the housing rehabilitation program as a public policy for poor families in South Barito 2015 which was assessed based on the criteria proposed by Widodo (2009) which are: (a) interpretation, (b) organization, and (c) application. (2) Result of the housing rehabilitation for poor families in suburban areas in South Barito 2015 evaluated using the evaluation model proposed by Dunn (2003) which included six criteria; effectiveness, efficiency, sufficiency, balance, responsiveness, and accuracy. (3) the effect of the housing rehabilitation implementation seen from factors proposed by Anderson in Islamy (2014) which included the intended consequences and unintended consequences. The data were obtained and analyzed based on some steps proposed by Miles, Huberman and Saldana (2014) including the data collection, data condensation, data display, conclusion drawing and verification.

RESULTS AND DISCUSSION

The implementation of housing rehabilitation for poor families in suburban area of South Barito in 2015. In the interpretation stage, deeper review on the Regional Regulation of Central Kalimantan Number 13 of 2005 about the Medium-Term Development Planning Year 2006-2010 which was then put into the managerial procedure in the Regulation of South Barito Regent Number 8 of 2015, The Letter of Decision of the South Barito Regent Number 99 of 2015, and the Letter of Decision of South Barito Regent Number 291 of 2015. The operational procedure was explained in the Decision of the Head of *BPMPD* South Barito number 414.2/366/BPMPD/2015 in which a technical team planner was appointed and the letter number 414.2/367/BPMPD/2015 explained the function of data verification team to collect the data related to the poor families that would receive the housing rehabilitation aids.

The organization stage consists of (a) policy implementation, in the Regulation of South Barito Regentu Number 8 of 2015 in which it is stated that the person in charged of this function is *BPMPD* of South Barito as implied in the Article 3 verse (1). The housing rehabilitation program is under the responsibility of the Department of Organization and Development of Society Participation of *BMPD* as stated in the Letter of Decision of South Barito Regent Number 199 of 2015 about Appointment of Coordinator Team and The Committee of Housing rehabilitation Program *Mamangun Tuntang Mahaga Lewu* of South Barito Number 8 of 2015. Therefore, those documents were used as the guidance and reference in implementing the program.

The standard operating procedure (SOP) of this program was not yet available. However, the indicators of the performance in the implementation of this program have been arranged in the work plan of *BPMD* of South Barito in 2015. It can be seen from the data that the indicators of the program have been achieved. (c) Funding Source and Facilitation, this program is funded from the regional budget of South Barito. The budget was used to fund all of the activities related to the housing rehabilitation program for poor families in suburban areas. Therefore, *BPMPD* has fulfilled the duty to fund the program which was the main source to run the program.

The budget for this program in 2015 was arranged as much as Rp 600.000.000,- which has been distributed to fund rehabilitation program for 76 poor families, in which each family received different amount of money based on the condition of the houses. The condition of the houses was categorized into three categories; Rp 3.000.000 to Rp 4.000.000 for slight damage, Rp 7.000.000 for moderate damage, and 10.000.000 – Rp 14.000.000 for severe damage. The fund played a major role in running this program and to achieve the goals of this program.

Another important factor is the facilitation. Sufficient facilities improve the effectiveness and the efficiency in running the program. The tools needed to repair the house were not provided by *BPMPD,* instead *BPMPD* provided materials and money to repair the houses which were given to the head of the village. Thus, the families should provide the tools themselves. (d) Appointing the executors of the policy. In this step, the executors were appointed and they created certain leadership pattern and coordination procedure in implementing this program. In this context, the leadership pattern only involved the intern management of *BPMPD.* The head of *BPMPD* functioned as the manager. Thus, the leadership pattern was the top up pattern. Therefore, the executors should report their work to the head of *BPMPD*. (e) scheduling. Housing rehabilitation program was suppored to start in April 2015 and end in December 2015 as scheduled in the regulation. However, the implementation delayed from the schedule.

In the application stage, the arranged housing rehabilitation program was implemented. In this state, all of the scheduled actions were administered (Widodo: 2016).

The result of the housing rehabilitation program for poor families in suburban areas of South Barito District in 2015. In 2015, *BPMPD* of South Barito has administered the housing rehabilitation program for poor families in suburban areas *PM2L.* This program was funded by the regional budget of South Barito in 2015 through the work plan of *BPMPD* South

Barito. The program spent Rp 600.000.000,- to repair 76 houses of poor families which fund was distributed through the headman of the villages.

This program was administered by distributing certain amount of money for poor families to repair 76 families' houses. The amount of the money given to the family depended on the condition of the house which was categorized into slight damage, moderate damage, and severe damage. Thus, this program did not directly repair the houses, yet it indirectly repair the houses by providing the fund. The result of this study shows that this program has been effectively implemented seen from the success of the program in achieving the goals; rehabilitating old houses of poor families. This program is also a part of anti-poverty program since residence is one of the human's basic necessities.

Efficiency of the housing rehabilitation program can be seen from how optimum the program solves the problems and how it fulfills the necessities of the poor family. Dunn (2003) stated that efficiency refers to the amount of effort that should be made to achieve certain level of effectiveness. In addition, a policy is said efficient if its effectiveness can be achieved from spending least amount of fund. Thus, the efficiency of the housing rehabilitation program can be measured from the resources indicator and optimization. Resources refer to the quality and the quantity of the human as well as the facilities available to support the implementation of the housing rehabilitation program. Whilst, optimization refers to the process on how to achieve the best result out of an action.

Based on the explanation above, it can be understood that attempt to ensure the quality and the quantity of the human resource for this program was made by appointing eight coordinators and nine managers to administer the program. Related to facilitation, poor families were given some fund to repair their houses. Optimization was done by giving the aid in the form of money in order to let the families repair their houses according to their own needs. Regarding Dunn's (2003) view on the correlation between effort and effectiveness, the indicators stated above can be regarded as the real effort to achieve the goal of the program.

Housing rehabilitation program for poor families in South Barito District is one of anti-poverty actions. Based on the data released by the Central Bureau of Statistics, out of 131.987 people who lived in South Barito, 6.600 people or 5.07% of the population were considered poor. From this number, 76 heads of poor families were chosen to receive the fund to repair their houses. The sufficiency of the fund can be measured from three indicators. The first indicator is the executors' performance. Executors team consisted of coordinators, secretariat, technical executors and manager team. Those teams have done their jobs based on the guideline stated in the Decision Letter of South Barito Regent and the Decision Letter of the Head of *BPMPD* South Barito.

Secondly, sufficiency is also related to the amount of the fund used in the implementation of the housing rehabilitation program. The fund for this program was taken from the regional budget of South Barito in 2015 through *BPMPD* of South Barito as much as Rp 600.000.000,-. The fund was then distributed to 76 poor families through the headman of the village. The amount of the money given to each family was determined based on the condition of the houses which were categorized into slight damage (18 families), moderate damage (22 families) and severe damage (36 families).

The last indicator of the sufficiency was the solution determined to solve the problem that occurred. In this case, the housing rehabilitation program is regarded as a solution to the poverty, and it is also a part of the anti-poverty program. Hence, it can be stated that *PM2L* program run by the government of South Barito as a part of infrastructure development has given some positive contributions and benefits for poor families, and it successfully solved some problems that occurred.

Each policy made by any government including the regional government of South Barito should be oriented to the public interests and fulfills the principle of equity and justice. As stated by Dunn (2003), policy that is oriented to public interest and equity can be in the form of policies that deal with public service and monetary which are fairly distributed.

The target of the housing rehabilitation program is to provide fund to rehabilitate improper houses of poor families. In 2015, Rp 600.000.000,- of the regional budget was

used to fund the program. Houses with slight damages received Rp 3.000.000 to Rp 4.000.000 (18 families), moderate damages Rp 7.000.000 (22 families) and severe damage Rp 10.000.000 to Rp 14.000.000 (36 families). Therefore, this program has provided benefits for 76 families in South Barito.

The success of a program is also determined by the responses of the society toward the program. Dunn (2003) explained that responsiveness refers to how good a program satisfies the necessities, preferences, and values of certain groups. In this study, five informants expressed their satisfaction and positive responses toward the housing rehabilitation program run by the government of South Barito in 2015. In line with Dunn (2003), a polity should be able to satisfy and meet the needs, preferences and values of certain society.

The housing rehabilitation program which was done by the government of South Barito District to repair the houses of poor families is a part of *PM2L* program held by the Municipal Government of Central Borneo. Accuracy is the last success criteria which can be measured from the goal of certain program as a solution to solve certain problem that occurred within a society. Accuracy is the measurement whether a program successfully solved a problem or it triggered some other problems. As explained by Dunn (2003), accuracy has a close correlation with substantive rationale since accuracy deal with not only individual criteria but also two or more criteria at the same time.

The accuracy of the housing rehabilitation program for poor families in suburban areas is a solution to solve problems that occurred among poor society. The regulation of this program explains technical procedure in implementing the program. The regulation was made to make sure that the program funded by the regional budget of South Barito District implemented in the most effective, efficient, economical and accurate way.

76 people were selected to receive the aids based on the data verification and survey done by the verifiers. In another word, not all of poor families in South Barito received the fund since the amount of the fund was also limited. It can be concluded form the selection process, 76 people who received the aid have been accurately selected.

The effects of the housing rehabilitation program for poor families in South Barito in 2015. The housing rehabilitation program has rehabilitated 76 houses of poor families in South Barito. The aids were distributed in the form of fresh money which amounts were determined based on the condition of the houses.

Jealousy from the neighbors arose as an indirect effect because the neighbors also expected to receive similar aids. The second issue is related to the insufficient amount of money received by the families that forced them to provide some additional money of their own to repair their houses. Another effect is the fact that the program enhanced mutual cooperation in the society since they worked together and helped repairing the houses. The neighbors usually sacrifice their time and money to cut off some expenses to pay for some handyman.

CONCLUSION

The housing rehabilitation program for poor families done by the government of South Barito District was not yet optimally administered due to the absence of the standard operating procedure and some agendas were not conducted as scheduled. Despite of several minor shortcomings in the implementation of the program, overall, the program was successfully implemented in accordance with the regulation of South Barito Regent Number 8 of 2015.

The implementation of the program has fulfilled all of the predetermined criteria. The outcome of the program can be seen from the result of the rehabilitation done to 76 houses of poor families in suburban areas in six regencies. As much as IDR 600,000,000 were spent from the regional budget of South Barito District to fund the program. The amount of money given to the receivers differed based on the damages on the houses; IDR 3,000,000 to IDR 4,000,000 for slight damage (18 families), IDR 7,000,000 for moderate damage (22 families) and IDR 10,000,000 to IDR 14,000,000 for severe damage (36 families).

The housing rehabilitation has given a direct effect in which 76 houses of poor families in South Barito District in 2015 were repaired. This appears as a positive effect. Another positive effect appeared as the neighbors participated in repairing the houses which enhanced the mutual cooperative among the society. However, jealousy from the neighbors also arose as a negative impact. Besides, the poor families were also required to add some money on their own to repair the houses.

Regarding to the result of this study which has been presented in the previous section, suggestions are directed at *BPMPD* of South Barito District as follows.

It is recommended that yearly program is arranged in such way that the projects have high relevancy to each other.

Standard operating procedure needs to be created in order to provide clear instructions in implementing the program.

Coordination among the teams has to be enhanced in order to improve the punctuality of the team. Hence, the program can be administered according to the predetermined schedule in the regulation of South Barito District Number 8 of 2015.

If the program continues next year, it is expected that higher amount of fund should be given to the poor families. Thus, more people can receive the aids. However, if this program is terminated in next year, the government should allocate the budget to open more jobs and increase the standard of regional minimum wages instead of running the program that creates social jealousy and unfairness among the society.

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MARKET ECONOMICS PRINCIPLES OF EDUCATION

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ABSTRACT
Education is an important component of social and economic development. Company represented by the public, corporate, private sector households across the demand for professionals in the goal-setting exercise education. This article analyzes the principles of the education in the market economy. The types of market structures at the education market in the conditions of high schools competition are considered.

KEY WORDS
Education, economics, university's competitiveness, human capital.

Basic principle of the human capital theory that stresses the role of education as a productivity enhancing investment (Becker 1964) is widely accepted in this discussion. Education policy is directed to meet the skill needs of the modern workplace and to improve the performance of the individuals in the labor market. In fact, education is seen almost as a universal cure to some of the most severe economic problems such as unemployment and poverty. Human capital is also a regarded as key factor in generating higher productivity and economic . Education institutionalizes information and knowledge accumulated previously, i.e. turns it into an instrument of sustainable removal of uncertainty, as well as an instrument of national or international influence on the intelligence of people. Education is an institutional filter: if the information transformed into knowledge, and knowledge into rules, patterns and norms, then information entered in the social organism, that is, it passed the process of knowledge institutionalization, which is possible due to the implementation of educational activities. Recent trends whereby the economies of developing countries have been growing significantly faster that the developed ones is likely to continue in the future. Relative inequality in per capita incomes would be reduced considerably by 2050. However, absolute differences would remain pronounced and could even increase further, given the current huge gaps in absolute per capita incomes. Moreover, inter-country and inter-regional inequalities within the present-day developing world would tend to become more pronounced.

Economic theory defines the Institute of Education as one of the most important socio-economic and law institutions, functioning in order to meet the demand of society for educational product and flexible in responding to all the social changes and processes. Institute of Education today ceases to act as a center of social and cultural values transmission, and becomes a producer of high-value products, as a set of educational goods and educational services. This product is formed as a result of treatment with the help of educational tools and is estimated on the labor market by a potential employer.

The key role of education requires a special relationship to him by society and the state, determines the dynamics of socio-economic development, acts simultaneously on two interrelated and interdependent markets - market of educational products and services and the labor market. Education - this is one of the most dynamic and investment attractive areas of the market economy. According to expert estimates, in the developed countries, the rate of annual increase in the volume of demand and supply of educational services is 10-15% (Litvinova et al., 1997).

Educational product is a result of the production process in the educational activity, in which knowledge is a kind of commodities, represented as a set of specific professional data. The result of the operation of the education institution embodied in the form of a commodity is a diploma of the particular specialty, which serves as a commodity purchased by the consumer.

Gaining knowledge by the society is realized through educational activities, as a result of which an institution provides educational product to the consumer. Considering the results of educational activity, that is, the knowledge obtained by the consumer and embodied in the form of commodity as a state diploma of certain speciality, one should pay attention to the specific characteristics of education as a commodity, i.e. a public good. Education as a public good is a result of a long historical social evolution of a society. Consolidating the results of science, education develops cognitive and practical properties of a social person, enabling them to meet continuously rising social needs. It helps the action of complex mechanisms in individual and social human activity, reproduces integration and differentiation of diverse social ties. According to the current scientific understanding educational product is an economic product, which is interpreted as the result of economic activity and is presented in the material form as fulfilled works and provided services that could be provided to the consumer during his life time.

On one hand, education is a personal, individual property, the main profit of which has economic properties, because consequently it is embodied to the income level of its owner. The institute of education is aimed at equipping the consumer of educational services with knowledge and competencies that will open access to obtaining the certain social position and material income. People treat knowledge as something that belongs to them, for the benefits of education that used in work and social activities. In this sense, the attitude of every person to education as to the general condition of their vital activity is a part of the common property. However, because of the complexity of the research object and the needs for a multidisciplinary approach, this issue is still in the development stage. On the other, education is an institution of socialization, coordination and practical integration of generations, providing professionalized transformation of socially significant information into knowledge, which convey generalization and potential smoothing sharp edges of the national inconsistencies arising from traditional norms and rules that make up the national characteristics of the cultural heritage.

The economic nature of education has been recognized by the classics of economics in the framework of the value labor theory. Many questions are described: the productive and efficiency education nature as a human capital investment in its future (Adam Smith); the analysis of the education costs as part of the of the labor power reproduction cost (D. Ricardo); the wages dependence on the education spending level (K. Marx); the education investments that considered to increase not only the human capital growth of its own productivity, but also for other workers (A. Marshall); the correlation of education investments in the economy and the GDP growth rate(J.M. Keynes); human capital as an external production factor, that is raising the economy productivity and efficiency (R. Solow) (Mukimbekov, 2011).

William Petty, the first focused on the high importance of citizens' wealth of knowledge as an element of the wealth of the kingdom (Petty, 1940; Petty et al., 2000). Adam Smith compared the person with a pre-acquired specific knowledge and skills, with high-tech expensive machine: "…The work done by the machine until the occurrence of wear and tear, return on investment in its capital, bringing a profit of at least normal levels. Man, get an education; it can be compared to an expensive machine discussed above. It is believed that the work that he has learned to perform, to be paid above the wages of ordinary employees, and allow him to recover all the costs of education, bringing a profit, which, at least, brings generally equal assets, but it must be done in a reasonable time" (Smith, 1962; Kobersy et al., 2015).

The concept of "human capital" was formed into a single concept in the late 1960s. Schultz, Becker, Denison, George. Kendrick, Robert Lucas - the founders of the concept of human capital considered education not only by the consumption of certain forms of

educational services, but also on the part of productive capital investments (Toffler, 1980). So, Mr. Becker was first used method for evaluating investment in physical capital for comparing the efficiency of investment in human capital, using which he analyzed, changes in the distribution of income after increasing the level of human capital among the masses as well as the effect of the reproduction process on the welfare of individual countries (Becker, 1993).

In recent years, a number of studies of correlation between level of education and GDP growth has been conducted (Hanushek, Vosmann, 2012). It identified the importance and value of education for the promotion of research and development, as well as for the dissemination of technologies (Vegelers, 2010). It was found that the higher percentage of educated people in the country's population, the higher the rate of economic growth (Maddison,2006). The rate of human capital formation or investment in education was identified early on as a key influence on rates of economic growth (Barro, 1991) and growth theorists now place great emphasis on this variable as a determinant of the wealth of nations. Lucas (1988) developed an endogenous (within the economy) growth model that considers human capital as one factor of production and schooling as a means of human capital accumulation (Harmon, 2006).

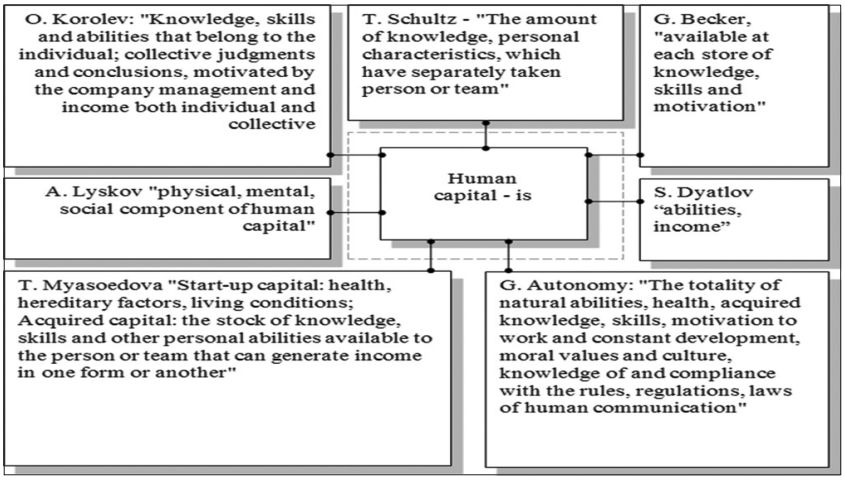

Figure 1 – Classification category of “human capital”

Today special importance is given to the problems of the transformation of the education institution in the period of globalization, unification and standardization, as well as between technology and the information revolution, which generate the need for the new educational forms that can flexibly respond to changing demands for knowledge and professional skills. This problem is reflected in the works of V. Andruschenko, V. Bochkova, K Wazzin, T. Voronininoy, M. Galushkina, V.Gurova, A. Davydov, A. Yegorovna, O. Ereminoy, V. Zhuravsky, C Zahariya, I. Kalenyuk. A., S. Krihels, V. Kutsenko, V. Logacheva, S. Mihats, E.Morgunova, S. Nikolaenko, E. Pakhomov, A. Petrov, N. Pruel, V. Tambovtseva, E. Hershberg.

Scientific methods of systematic and comprehensive approach are served as methodology of the study: historical and logical method is allows to reveal the nature of the historical educational forms and its relationship with the economic system; dialectical method, on the basis of which has been verified by contradictory nature of the functions and status of educational activities and its role in the development of economic systems; induction and deduction methods which made possible to generalize and systematize the modern trends of development of institutional reforms of educational activities; method of analysis and synthesis that are characterized by patterns of institutional development of educational activities to enable it to organically be involved in the process of globalization and socialization of economics; method of institutional approach, which has allowed to present an educational segment of the economic system as a set of rules, regulations,

traditions and special organizations (educational institutions), which provide the process of education transmission of socially significant information.

One of the main tasks of legislation in the sphere of education is to ensure and protect citizens' constitutional right to education, and to create legal guarantees for the free functioning and development of both the educational system as a whole and all its components. Inadequate provision of the above guarantees by states is a hindrance in the realization of the planned reforms. Academic literature contains very different, sometimes even mutually exclusive interpretations of the concept of "lifelong education", from the emergence of a new, global educational system to the principle of continuity that becomes decisive for the functioning of any educational system during the epoch of globalization. The opportunity to get a free professional education only once in one's lifetime, and the duty to "work out one's diploma" for several years, were not conducive to people's self-improvement and permanent creative growth. Furthermore, the basic knowledge one received was virtually sufficient for a lifetime. The opportunities for lifelong education that were created by those circumstances allegedly gave a powerful impetus to the development of lifelong education. (Astakhova, 2010)

From the economic point of view knowledge is a commodity in the relations of commodity-monetary exchange and are traded in the market of educational services, education can also be seen as an institution of social and economic exchange. Education offers the market a product that, as well as any product of exchange, has a use value and exchange value, i.e. the ability to meet the needs of the consumer, which is reflected in consumer utility from consumption of educational services and the ability to exchange into the money that is paid by the consumer of an educational product. An educational product may be represented in the form of commodities as knowledge, which is set of information of a specific vocational orientation, collected into educational programs within a particular specialty. The result of this commodity form embodiment is a diploma which, being bought and sold in the market of educational services, serves as goods in commodity-money exchange, both at the education market and the labor market.

The model of market relations in the higher education system is presented regarding the relationship between higher education institutions engaged in training and retraining of young professionals, between enterprises, which are consumers of young professionals, and young professionals themselves as specific goods, produced as a result of educational services. However, due to the same reason, parents, school, environment, and surrounding people, as well as the graduate himself could be called the manufacturer of this particular product. This is confirmed by the fact that in the formation of professionally significant knowledge and skills that are used by employers in the labor market, not only the university is involved, but also the family, environment. An important aspect here is the self-education in the period of study at the university, parallel training in various courses, getting extra specialties. In addition, professional qualities cannot be viewed in isolation from other personality characteristics that are significant during both employment, and occupation.

Another important aspect of education identification is considered from the point of view of the public, private or mixed benefit. Consideration of education from the perspective of a public good allows one to emphasize its fundamental property - non-competition, the essence of which is that every person originally acts as a co-owner of the knowledge belonging to the whole society. Consumption of education benefits by an individual should not be excluded from consumption of the results of their operation for other people, which characterizes the non-competition of education. Consumption of knowledge by certain people does not lead to a reduction in consumption of the same knowledge by others, since knowledge are inseparable (Pruel N,2001)

When considering education as a public good and analyzing its external effect, the presence of high levels of uncertainty should be noted, which creates insurmountable difficulties of quantitative changes in the public benefit and creates the possibility of opportunistic behavior of the subjects of educational process. In addition, there are circumstances indicating irrational economic behavior of economic agents and the

occurrence of information asymmetry, i.e. the uneven distribution of information between the state and citizens.

The main task of the education market is to balance the supply and demand of these services and meet their needs. Demand for educational product is determined by many social and psychological factors, starting with adherence to family traditions. From the point of view of economic motives, the most important is the salary that the consumer of educational services is able to receive after graduating from higher educational institution, and the prospect of return on investment in education. One can make the following assumptions about the demand for education:

- consumer demand, based on current consumption is less than the demand of those who are oriented toward future income (ceteris paribus);
- demand for contract training will decrease with an increase in the cost of education (ceteris paribus);
- demand will increase with an increase in the differences in earnings of persons with higher and secondary education in favor of the former;
- the demand for educational services to a particular profile is derived from the demand for specialists in this profile and the level of their income;
- with increase in the age of educational services' consumers, the alternative expenses rise as well, which makes the demand for educational services more flexible.

In the context of economic transformation the "non-functional demand" remains high enough and touches upon universities and specialties displaying a prestigious position in society, the so-called "Veblen Effect", which in opposition to the law of demand unreasonably puts up the prices for prestigious specialties. This applies to the world's most prestigious universities of Harvard and Stanford, as well as Russian (Moscow State University, MGIMO).

With regard to the analysis of the supply of education services, it should be remembered that the Institute of Education "forges personnel" and should therefore be focused on the needs of society in general and employers in particular. However, some difficulties and peculiarities should be pointed out. An educational institution operates simultaneously in two markets: the education market and the labor market. The university provides educational services of a certain type to the society and at the same time presents the results of its activities to the labor market, consumers of which are businesses and organizations in different fields of economy. This dual nature of the university activity is making considerable confusion in the definition of its products, target markets and consumer groups.

The supply of educational services within a single educational space is carried out by state and private universities, which occupy one third of the market and increase competition. Given the market structure the market of educational services is a market of monopolistic competition. This is implied by: firstly, educational product differentiation both as to its consumer characteristics and in terms of the quality. It is referred to education in different fields, faculties, universities and levels of teaching. Secondly, the high sensitivity to economic conditions, a significant factor of seasonality, a significant influence of advertising, fashion, awareness, education institute dependence of political and economic institutions. Thirdly, distinct segmentation of demand for services based on income, prices, users' subjective evaluation of the supplier's ability to provide certain services, the importance of a service, lifestyle. Fourthly, the general capacity of the market and the absolute benefits of existing enterprises in the industry on the costs of providing services and benefits to consumers, the positive effects of scale(Astakhova,2013)

In assessing the expected benefits of investment in human capital for individuals, researchers isolated and short-term factors affecting the change in the dynamics of demand of people with consumption of educational services.

The long-term factors include:

1. A high level of wages for a future life;
2. A greater satisfaction from the work chosen for life (moral benefits);

3. The achievement of higher social status. It is assumed that in a modern society can rise from the bottom to the top, and it requires only the effort. There is a so-called “lifts” social mobility, one of which is education;

4. The affects the orientation of their children (the continuity of generations, the continuation of the profession of parents). For parents, the child’s higher education serves as proof of the viability of the family, the consistency of its material and social resources;

It should be noted that the educational space within the market is non-uniform both in terms of students, educational institutions, and from the point of view of the proposed product. In one state, you can find a lot of educational institutions that due to a number of factors have different quantitative characteristics of educational space. These factors include the profile of the university, teaching personnel and different entry requirements. One of the main factors that determine the boundaries of the market is the price factor. However, today non-price factors are becoming more and more important in the competitive relationship in the market of educational services.

This means that educational institutions are trying to attract the consumer using non-price methods, focusing on the range of additional related services, so-called complement services. The latter include: the organization of extracurricular activities, broadening the range of educational services through the provision of training on an additional speciality, organization of scientific activity of students, as well as scientific conferences and seminars.

The implementation of lifelong multilevel education must lead to the creation of educational institutions with a multilevel organization of students training. Training in such institutions must be implemented according to integrated curricula and educational programs of various educational levels: primary, secondary, higher and supplementary ones. The upbringing component of the integrated training and upbringing process being implemented in the above structures must be an important component of their activity. Such activities may result in a network of educational institutions providing opportunities for a changeover to multi-level, multi-tier, successive and variable educational problems. Therefore, in spite of the fact that the overwhelming majority of educational institutions implement the idea of lifelong education in practice by organizing joint activities or creating associations of legal entities interconnected by an agreement or shared goals of the above concept, in our opinion, the concept of lifelong education can be implemented to the best extent in educational institutions (complexes) comprising all the basic educational activity structures, from preschool to postgraduate education, moreover, within the framework of a single legal entity.

One of the most powerful factors of non-price competition between universities is teaching personnel. Its qualitative characteristics can be divided into formal and informal. The former should include the number of academic degrees and titles per one school, to informal - the credibility of teaching staff, the nature and level of interpersonal relationships, the efficiency of their interaction, the ability to empathize. A significant role among the non-price factors is played by an opportunity to provide further employment of students, which opens the way for students to reduce the transaction costs of future job search with the necessary level of pay and prestige. The characteristic features of the educational market, like any other, are the uncertainty and risks, which include: "supply and demand shocks": changes in economic and political stability, a sharp change in prices for resources, in tax policy, as well as natural disasters.

Demand for the products of companies operating in a monopolistic competition is not perfectly elastic, but its elasticity is high. For example, the adherents of Western European education are willing to pay for it more than for domestic education -, but if the price difference is too large, then the buyer will always find in the market analogues of less well-known companies at a lower price. Therefore, the institutions that produce intellectual human capital should have a balanced approach to the positioning of their own advantages.

Currently, the process of modernization and reform of education in virtually every country in the world. And, despite the differences in systems and approaches in this field, global trends in education have much in common, in particular:

• Changes in the objectives and functions, strengthens its innovative componentprevails over the cultural characteristics of the developing countries;

• Improves the quality of education in line with the changing needs of society involves real implementation of new educational technologies, changing the whole system of training and retraining of highly qualified specialists;

• Focus on the principles of lifelong education is the introduction, asthe neweducational technologies, and finding new ways of presenting educational services tailored to the needs of school-leavers and students;

• Formation of new goals of the school, which in the twenty-first century. It becomes a social institution to meet the needs of society in vocational education (Dobrynin et al., 1993).

Activity of universities is carried out today in an increasingly competitive environment. This policy defines the institution of higher schools, which tend to attract students and raise their ranking to become competitive in the provision of qualitative educational services. Global trends in the development of education, the situation developing in the Ukrainian system of higher education urgently require a deep and comprehensive renovation of the structure and content of higher education, consistent and prompt implementation of innovative technologies of training and education, modernization of the state educational policy, reviewing not only the legal basis for the functioning of higher education but also rethinking of the mission of the higher school, its strategic objectives.

There are several strategies to improve competitiveness: the horizontal and vertical integration processes. Horizontal - the entrepreneurial activities of the university, the expansion of educational services, internationalization of education and integration into the international educational space and integration processes "university-science-business." Vertical - introduction of the concept of lifelong education, "school-university-business."

During the fierce competition, which higher education institutions have been forced to face within the market space, there is a selection of educational institutions. In addition to competition, to overcome which universities have to spend a certain part of their potential, higher education institutions need to look for and to optimize self-financing sources, both public and private. The ones to survive are those who meet the needs of the market today, try to minimize costs, as well as those who can anticipate changing trends in demand for educational services and take into account its forecast. They have to, in the face of fierce competition in a timely manner extend and change the range of services and products that make up the educational product, offering the market new educational forms, using new methods and training programs, advanced scientific and technical achievements with the logistics of the educational process.

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HOUSEHOLD CONSUMPTION BEHAVIOR IN TERNATE, INDONESIA

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ABSTRACT
This study aims to analyze the influence of lifestyle, age, size of household, environment, and income on household consumption behavior; test the suitability or deviation from the existing economic theories; select existing regional macroeconomic policies. The study involves families in Ternate City of North Maluku Province. The data analysis is done using a multiple linear regression model. The results show that lifestyle, age, size of household, environment, and income have an effect on household consumption behavior. However, lifestyle, age, and environment have a negative effect on household consumption. This indicates that families in Ternate City want to arrange or make an inter-time choice to consumption in the future. In addition, these lifestyle changes have implications for changes in taste, habits, and purchasing behavior (consumption patterns).

KEY WORDS
Household consumption, lifestyle, age, household size, environment, income.

Household consumption is one of the economic activities to meet various needs of goods and services. Of the commodities consumed, families will gain their satisfaction. Therefore, consumption is often used as one indicator of family welfare. The greater the spending on the consumption of goods and services, the higher the welfare stage of the family (Akmal, 2003).

The Keynesian theory of consumption states that household consumption (C) is positively related to current income—the bigger the income it has, the more the tendency to consume. Keynes also believes high-income households consume less of their income than low-income households do (Case & Fair, 1999). One important finding in Keynes's economic theory is the tendency to consume that highlights the relationship between additional consumption and additional income. When income increases, consumption also rises, but this increase is not as much as an increase in income.

Meanwhile, according to Duesenberry (Mankiw, 2003), in his relative income hypothesis there is always a tendency of every member of the community to increase their consumption so there is an increase in income. However, consumption is not influenced solely by absolute or relative levels of income at any given time, but also by historical factors and previous levels of consumption. People always reach the standard of consumption to the highest level of income ever achieved. If the relative income is declining, one will not immediately sacrifice the standard of consumption. Therefore, here is a ratchet effect, that is, consumers adjust their consumption slightly due to the decrease in their present income. However, such adjustments are not symmetry because when their relative income increases, they will soon increase consumption to the highest-level ever-achieved (Metwally, 1995).

Under adverse economic conditions, consumption will tend to lag behind by rising income levels, while in times of economic decline, consumption levels will not fall as fast as income growth rates fall. The permanent-income hypothesis states that consumption depends on one's expectations. The rational-expectation assumption dictates that people use all available information to make optimal predictions about the future. At some point, consumers choose based on the present expectations of their income. Changes in consumption reflect a 'shock' to lifetime income (Krisnawati *et al*., 2004).

This study has a specific purpose to formulate a model of household consumption. Modeling is made to assist in the selection and/or proper local macroeconomic policymaking, and so, economic stabilization can be created. The purposes of this study are (1) to analyze

the influence of lifestyle, age, household size, environment, and income on household consumption behavior; (b) test suitability or deviation from the existing economic theory; (c) to select existing regional macroeconomic policies.

THEORETICAL REVIEW

John Maynard Keynes Consumption Theory. The Keynesian theory states that consumption now depends on present income, following this consumption function:

$$C_t = C_0 + C_1Y_t$$

Where: C_t is current consumption, Y_t is current income, C_0 is autonomous consumption, and C_1 is the marginal propensity to consume (MPC). The above consumption functions can be illustrated in the following figure.

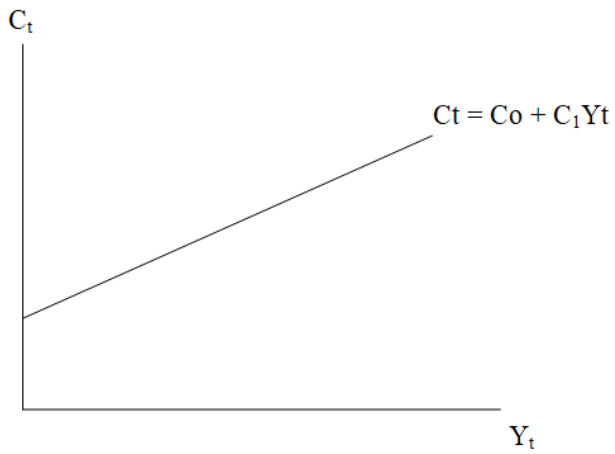

Figure 1 – The relationship between consumption and income

From the above function and figure, it can be seen that (a) MPC is constant and always smaller than average propensity to consume (APC) and (b) APC is decreasing with increasing income. Furthermore, Keynes adds that the relationship is relatively stable and higher nominal income will result in greater proportion for savings.

Consumption Theory with the Life Cycle Hypothesis. According to the Fisher model, consumption depends on a person's lifetime income. Modigliani emphasizes that income varies systematically during one's life and savings enables consumers to use income from the time when it is high to a time when income is low. The life cycle hypothesis assumes that people save to smooth their consumption for life. One important goal is to earn sufficient retirement income. Therefore, people tend to save while working to add deposits to retirement and then spend their savings accumulated in their old age (Samuelson & Nordhaus, 2004).

Mankiw (1997), Metwally (1995), Soediyono (1995), Branson and William (1972), Wijaya in Suprayitno (2005) state that Franco Modligiani and his collaborators, Albert Ando and Richard Brumberg, use consumer behavior models to study consumption functions. One of their goals is to solve the consumption puzzle, explaining the existence of conflicting evidence when Keynesian consumption is included in the data. According to the Fisher model, consumption depends on the income of one's life. Modigliani emphasizes that income varies systematically during one's life and savings enables consumers to use income from the time when it is high to a time when income is low. Consumption at time t does not follow the amount of income at time t as the Keynesian theory, but follows the long-term income pattern formulated as cash income at time t. The implication is that APC in a life cycle differs from each other - APC is high in early life and old age and is low during the productive age; in other words, APC is inversely proportional to the amount of income.

Consumption Theory with Relative Revenue Hypothesis. According to Duesenberry, in his theory of relative income hypothesis, there is always a tendency of every member of society to increase consumption so there is an increase in income. Fluctuations in income levels cause consumer behavior (households) to be different in the short and long term. This is because they are essentially not paying much attention to their absolute level of consumption, as is their relative consumption to members of the community surrounding their neighborhood. If consumers always see the household consumption pattern of their richer neighbors, then there is a demonstration effect, but the imitation of the neighbor's consumption pattern is to the surrounding community.

Consumption is not solely influenced by absolute or relative levels of income at any given time, but also by historical factors and previous levels of consumption. Therefore, if income is lower than what one receives now, the person will find it difficult to change their level of consumption to the lower standard. If they even lower their consumption, it is only a small one in reaction to the decline in income. Conversely, there is always a tendency to adjust the pattern and level of consumption to the level of income that already exists. If there is an increase in income, they will try to increase their consumption. The adjustment of the level and pattern due to the increase in income depends on average propensity to consume, which is further expressed as the pattern and the level of long-term consumption (Kimin, 2002).

Consumption Theory with the Permanent Income Hypothesis. Friedman's permanent-income hypothesis complements Modigliani's life cycle hypothesis as both use the consumption theory of Irving Fisher to argue that consumption should not depend solely on current income. But unlike the life-cycle hypothesis, which emphasizes that income follows a regular pattern over a person's lifetime, the permanent-income hypothesis emphasizes that humans experience random and temporary changes in their income from year to year (Mankiw, 2003).

According to this theory, people's income is divided into two, i.e. the permanent income referring to the income received at any given period and the transitory income referring to the unexpected additional or reduction of income (Dornbusch & Fisher, 1987).

This Friedman theory, like the life cycle hypothesis, also argues that household consumption is primarily determined by long-term income. Friedman defines permanent income as the average long-term income expected to be received from human and nonhuman wealth. Income from human wealth is income received from providing human skills, and as the reward, they will earn salary, wages, and other remuneration from work. Non-human wealth includes income is derived from property and fixed assets such as income from stock ownership, bonds, and real estate. If the permanent income hypothesis is true and the consumer has rational expectations, then the consumption change may be unexpected and this change is known as the random walk. The reasons given are as follows: if this hypothesis is true, then consumers will follow the fluctuations in income by trying to reduce the fluctuations in consumption, yet still with the expectation that income level will change the level of consumption.

METHODS OF RESEARCH

Design of the Study. This study is a combination of quantitative and explanatory research. Quantitative research involves testing the hypothesis or the relationship between research variables through the processing of quantitative data. Explanatory research is a study involving hypothesis testing. Such research also contains descriptions, but the focus lies in the analysis of relationships between variables (Hadari, 1998).

Data Collection Technique. The main data used is primary data. Secondary data is to support the primary data. Primary data is collected through questionnaires distribution method to selected respondents.

One way to determine the size of the sample to be used as a data source is by estimating the proportion of the number of objects that have certain characteristics in a population.

To obtain a minimum sample that must be investigated, the following formula (Nawawi, 1983) is used:

$$n \geq pq \left(\frac{z_{1/2}\alpha}{b} \right)^2$$

In which:

n = the minimum sample size;
≥ = equal to or greater;
p = percentage of the population proportion of the first group;
q = residual proportion in population (1 - p);
$Z_{1/2}$ = the degree of coefficient confidence at 99% or 95%;
b = the estimated probability (in percentage) of making a mistake in determining sample size.

After determining the minimum number of sample, the next step is sampling through a purposive sampling technique.

Data analysis method. Consumption function in this study is as follows:

Ci = f (Lifestyle, Age, Size, Environment, Income)

The general consumption function above will be converted into a multiple linear regression form, as follows:

$$Ci = \beta_0 + \beta_1 Style + \beta_2 Usia + \beta_3 Size + \beta_4 Lingk + \beta_5 Income + \varepsilon t$$

In which:

Ci: the pattern of household consumption;
βi: regression coefficient of independent variables;
β_0: constants;
Style: lifestyle;
Age: age of household head;
Size: household size;
Environ: environment;
Income: income;
εt: *error term.*

RESULTS AND DISCUSSION

The result of data analysis shows that lifestyle, household size, environment, and income have significant effect to consumption level at 5% error level. Age variable has no significant effect on the level of consumption. Thus, the consumption level in North Maluku Province is influenced by lifestyle, household size, environment, and income.

Ci = -3.734 – 2.499Lifestyle – 0.018Age + 1.199Size – 2.727Environment + 25.386Income + εt

Table 1 – The Result of Linear Regression Test of Household Consumption

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Style	-2.499	0.666073	-3.751484	0.0002
Age	-0.018	0.154287	-0.114446	0.9090
Size	1.199	0.622659	1.926115	0.0551
Environment	-2.727	1.4195507	-1.921313	0.0557
Income	25.386	2.283910	11.11505	0.0000
Constant	-3.734	1.06E+08	-3.506144	0.0005
R-square	0.5964	F-statistic		50.24133
Adjusted R-square	0.5845	Prob (F-statistic)		0.000000
Durbin-Watson stat	2.350985	-		

Lifestyle. Lifestyle reflects the values adopted by society itself. Consumption of an item, according to Weber (in Damsar, 2002), is a description of a particular lifestyle of a particular status group. Consumption of goods is the basic for the inclusion of status groups. Thus, it differs from the class whose basic is the relationship to production and the acquisition of goods. Lifestyle gives an explanation that a person sometimes consumes certain goods simply for showing off which usually always include elements of admiration. The Veblen effect shows that the usefulness derived from consuming goods for showing off depends on two things, namely quality and price.

Based on the results of the study, lifestyle affects the pattern of household consumption. However, there is a negative relationship between lifestyle and household consumption patterns in Ternate City, as luxury lifestyle will reduce the proportion of spending for food. It implies that the lifestyle of every household will cause a shift in consumption patterns. Households will reduce expenses for food in order to meet the needs of luxury goods.

In this study, the type of work, the shopping habits, and the dresses worn represents the household lifestyle. They are indicators used to differentiate a person's or a household's social status that can directly influence lifestyle or behavior. Lifestyle gives an explanation that a person sometimes consumes certain goods simply for showing off which usually always include elements of admiration. It is understandable that the goods for a person are no longer merely to meet the need for life but also for enjoyment and prestige.

Household Size. The size of the households referred to in this study is the number of household members in one family, consisting of husband, wife, and children (including relatives) who are the burden or dependents of the household head in the fulfillment of daily needs. Thus, it can be concluded that the more household members, the higher the necessity of life, especially for daily consumption. According to demand theory, the higher the population (household), the higher the demand for goods and services will be. It is understandable that more household members will increase demand for goods and services. Thus, the number of household members will affect the consumption pattern of the household. However, the changes occurring in household consumption are more likely to food.

The results of the study show that the size of households significantly influences the pattern of household consumption in Ternate, with a positive relationship between household size and consumption patterns. This implies that the larger the size of the household will bring a rise in household spending or a larger shift from non-food consumption to food consumption. In other words, the number of household members makes household spending for goods, other than food, to change (decrease) to replace food items. This is also in line with Angeletos *et al.* (2001) which state that consumption reaches its peak in the middle of life, as the number of children increases. This means more children causes a drastic increase in the household needs for consumption of goods and services (especially food). Similarly, Eilenstene and Cunningham (1972), in their research entitled "Projected Consumption Patterns for a Stationary Population" conclude that age and household size variables influence consumer spending in the opposite way. However, the results of this study indicate that the size of households is positively related to the pattern of household consumption in Ternate City.

Environment. Interaction with the environment explains the adjustment of families to change by comparing the contemporary behavior of families in different environments and steady consumption patterns over time. It means that different environment makes household to adjust itself, which can change its consumption pattern (Wallis, 1942). This is consistent with the consumption theory of the relative income hypothesis, which states that essentially a person or household is not so concerned with their absolute level of consumption, as is with its relative consumption of the members of society around its environment.

The results of this study indicate that environmental factors significantly influence the pattern of household consumption in Ternate. However, there is a negative relationship between environmental factors and household consumption patterns. This means that the

better the interaction of the head of household with the environment or the community around, then most likely there is a change (decrease) in food consumption. It also provides an interpretation that improved interaction between households and the surrounding community will cause a change in consumption patterns. This will lead to a demonstration effect in which households will adapt or follow the consumption patterns of their neighbors or friends. Thus, households will make choices by reducing the consumption of food, as to consume non-food items such as the purchase of mobile phones, credits, recreation, or entertainment, and so on. This is in line with Wallis's (1942) research entitled "The Temporal Stability of Consumption Patterns", indicating that the validity of estimated consumption depends on how families adjust to change by comparing the contemporary behavior of families in different environments, and steady consumption patterns over time. Likewise, the research by Sun and Wu (2004) entitled "Consumption Patterns of Chinese Urban and Rural Consumers" confirm that Chinese people who attain a certain standard of living develop a need for quality of life, requiring the fulfillment of social needs and self-symbolic consumption. When rural consumers adopt the consumption pattern of urban consumers, the objects that become luxury goods then become necessities.

Age. Changes in one's age will affect or change the consumption pattern of goods and services. Age causes consumers to smooth the level of consumption over time. It indicates a household's expectation of the conditions to come, by managing the current consumption. Thus, it can be concluded that households make inter-temporal choice. When a person decides how much income will be consumed and how much is saved, one considers the present and future conditions. The more one consumes today, the less one can consume in the future. Kelly and Lanot (2002) build a theoretical framework to characterize the optimum behavior of individuals who receive income periodically but make consumption decisions more regularly. The results explain how individuals allocate consumption optimally to different periods of their lives based on available information about lifelong resources.

The results of the study show that the age of household head does not significantly influence the pattern of household consumption in Ternate City. That is, consuming or purchasing decisions is not based on head's age, but only on the current needs. The results of this study also indicate that there is a negative relationship between the age of head of household with the pattern of consumption. This implies that the older the person, the lower their consumption of the non-food items. In other words, households rationally have the foresight to make different inter-time choices. Similarly, Browning and Crossley (2001), in their research on "The Life-Cycle Model of Consumption and Saving", showing the life cycle framework, states that the agent must make sequential decisions to achieve coherent (and stable) goals by using available information as well as possible. Empirical evidence seems to suggest that parents are dissaving as predicted by the general life cycle model. In addition, Eilenstene and Cunningham (1972) conclude that age affects consumer spending in the opposite way. This means that the older the age of a person or household, the lower the spending for food will be.

Income. The inter-temporal choice theory proposed by Irving Fisher explains that each individual will decide how much income will be used for current consumption and future consumption. The more one consumes today, the less one can consume in the future. In addition, Keynes's consumption theory states that current consumption is dependent on current income. According to Keynes, a minimum threshold does not depend on the level of income—the level of consumption must be met, although the income level is equal to zero, which is called as autonomous consumption. If disposable income increases, consumption will also increase, except that the increase in consumption is not as much as the increase in disposable income (Mankiw, 2003).

The results of the study indicate that income significantly influences to pattern of household consumption in Ternate City. The results also show that there is a positive relationship between household income and consumption patterns. That is, the higher household income will lead to an increase in consumption patterns (food and non-food). This is in line with the study by Kimin (2002), which proves that the increase in income is followed by increased consumption by following short-term consumption patterns. Likewise, the

results of interviews with 281 households show that 249 households (88.61%) have consumption patterns influenced by income levels. The high-income make the household to have more choices to the various goods that will be consumed. The increase in income will change patterns of spending.

CONCLUSION AND SUGGESTIONS

Based on observations and data analysis on the pattern of household consumption in Ternate, then some conclusions can be drawn as follows:

1. A person's lifestyle will affect the decision in buying a certain item. Research results show that lifestyle influences the pattern of household consumption. However, there is a negative relationship between lifestyle and household consumption patterns in Ternate City. This means that the luxury lifestyle of household will reduce the proportion of spending for food.
2. Age of the head of household does not significantly influence the pattern of household consumption in Ternate City. That is, that the head of the household in consuming or purchasing decisions of a good is not based on the age, but only on the current needs of the moment. The results of this study also indicate that there is a negative relationship between the age of head of household with the pattern of consumption. This implies that the older the age of a person or household, the lower the spending for food will be. In other words, households rationally have the foresight to make different time choices.
3. The size of household affects the consumption patterns in Ternate City. The more household members, the higher the necessity of life, especially for daily consumption. Thus, the number of household members will affect the consumption pattern of the household. However, the changes occurring in household consumption are more likely to food.
4. Environmental factors negatively affect household consumption, which means that better interaction with the environment will reduce household consumption of food. Improved interaction between heads of households with neighbors or friends leads to a shift in the consumption of food to non-food items. Thus, strong or high interaction with neighbors causes the household to imitate the neighbors' consumption pattern (demonstration effect).
5. Income level significantly influences the pattern of household consumption in Ternate City. The results indicate that there is a positive or direct relationship between income levels with household consumption patterns. That is, the higher household income will increase in consumption patterns (food and non-food).

Suggestions:

1. Household size and environmental variables affect household consumption patterns. Therefore, with an increasing number of dependents or household size, household heads need to think and work harder to earn extra income to meet the household's demand for food. Thus, every household must be more rational in making choices related to current and future consumption patterns. In addition, government policies are needed to stabilize prices in general, especially food prices. Likewise, households must not follow the lifestyle of the people around them; they should be more rational in deciding the pattern of spending in accordance with the needs and budget owned.
2. Income and household wealth have an effect on household consumption patterns in Ternate City. Thus, it is necessary to have a policy that can maintain price stability, especially basic needs, as this directly affects the level of income and household wealth. In addition, the government needs to create even more jobs for the community, thereby directly increasing the income which then increases the ability to consume goods and services. Complete and correct information about changes in price - price of goods and other policies that can affect consumption patterns household must also be made available.

3. The results of the study show differences in the pattern of household consumption in Ternate, as the internal factor affecting decision making of each individual is very different. Related parties are expected to find solutions in resolving internal problems that cause differences in consumption. Thus, policies related to employment and decent life for the community must be made.
4. It is necessary to conduct further and more in-depth research on consumption patterns, especially to see specific variables such as the phenomenon of fast food stall mushrooming.

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THEORETICAL ASPECTS OF THE AGRARIAN ECONOMY'S INVESTMENT AND INNOVATIVE DEVELOPMENT ANALYSIS

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ABSTRACTй
Analytical calculations help to influence actively on economic processes of an economic entity mobilizing potential reserves of an increase in profitability and a return from invested capital. Also these calculations are the base for making economically grounded investment and innovative and management decisions. Results of economic analysis allow diagnosing and controlling tendencies of the improvement of quantitative and qualitative parameters of the production and economic activity of the agro-industrial complex enterprises. However theoretical and methodological aspects of the economic analysis in the sphere of the investment and innovative model of the agrarian economy development are scattered. These aspects are isolated components in different spheres of analytical researches. As a result it is quite important to define tasks of economic analysis in conditions of the investment and innovative model of the agrarian economy development. The aim of the article is to prove tasks of an economic analysis, which correspond to conditions of the investment and innovative model of the agrarian economy. This article considers questions of economic analysis, which give an opportunity to diagnose and control tendencies of the improvement of qualitative and quantitative parameters of the economic activity of the agro-industrial complex enterprises. It is proved that tasks of the economic analysis in conditions of the investment and innovative model of the economy development must be improved. The tasks of the investment and innovative analysis of development as a subsystem of management and its place in the system of the economic activity management of economic entities are formulated and proved.

KEY WORDS
Investment, innovative development, economic analysis, agrarian economy, management.

The perfectly made economical analysis contributes to obtaining appropriate information for making administrative decisions on dynamic changes, structure, financial consequences and future perspectives of the economic entity. As a result search of new approaches to economic analysis of aggravation of social, ecological, and economic problems in contemporary world and expansion of international cooperation in the sphere of investments and innovations gets special value. World priorities of science gradually shift in the direction of investment and innovative economy, when investment and innovative activity becomes defining for further development and survival of enterprises and economy of countries in general, revision of the economic analysis tasks for ensuring taking effective management decisions becomes essential.

Many native economist-analysts, such as I.S. Kurbakov, A.V. Koren [1], O.V. Korneiko [2], V.A. Osipov [3], G.I. Lazarev, I.A. Kuzmicheva [4], V.A. Cherkasova [5], T.E. Danilovskih, E,V, Konvisarova [6], and also foreign scientists G. Birman [7], M. Friedman [8], L.A. Lachtionova [9], E.V. Mnich [10], V.P. Zavgorodniy [11] analyze big layer of questions of investment and innovative development and improvement of theoretical and methodological bases of economic analysis.

Despite sufficient researches of the matter in scientific literature, theoretical and methodological aspects of economic analysis, especially tasks in terms of investment and innovative development of agrarian economy, remain debatable and demand improvement.

It is necessary to proceed from cause-and-effect relationship in interaction of the economic activity of the enterprise and public authorities, competitors, contractors,

population of the region, social environment while forming aims and tasks of analysis in terms of investment and innovative development of agrarian economy [12, 13].

Such interaction influences economic activity of the enterprise, its image, investment and innovative appeal and importance of investment and innovative development of the agrarian economy of the whole country.

Considering the preceding, circle of tasks of economic analysis is formed on integrated objects of management: investment and innovative development of the enterprise, effective usage of investment resources, introduction of innovations, economic consequences of investment into innovations. According to each group of objects there is a necessity in analytical providing of other management subsystems, particularly in planning, that is usage of economic results by drawing up budgets and in the internal control, application of analytical procedures during checkups and results of analysis for the previous periods at a stage of planning of the checkups.

In general interaction of the stated subsystems in the context of tasks of economic analysis of the investment and innovative development is shown as follows (Fig. 1).

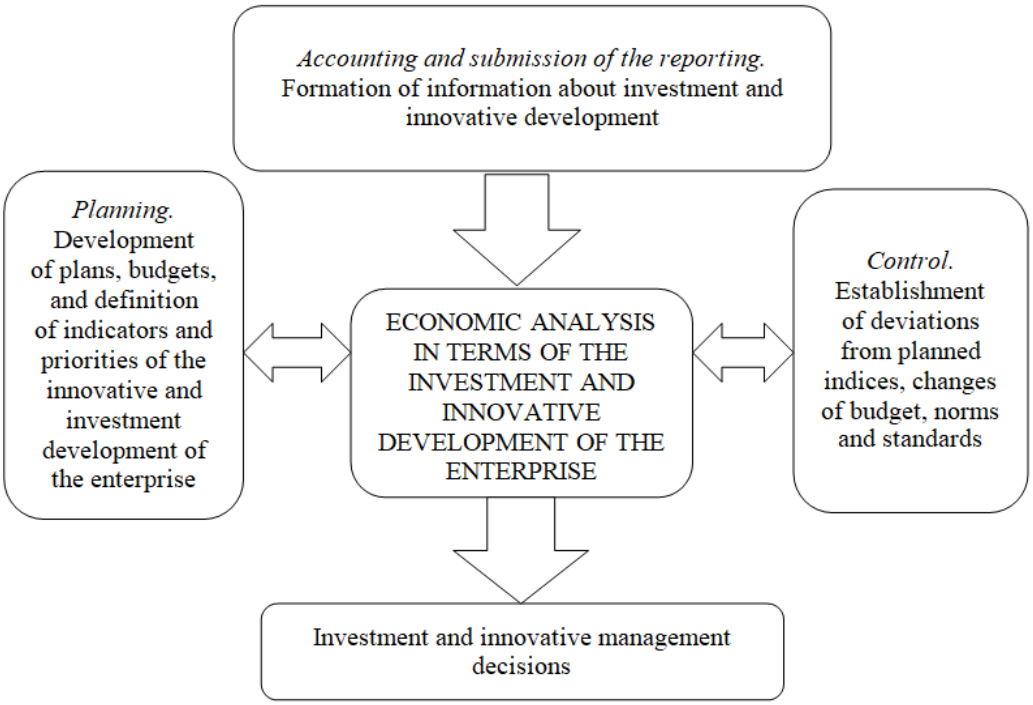

Figure 1 – Tasks of analysis of investment and innovative development of the enterprise in terms of management subsystem

Thus tasks of economic analysis of investment and innovative development of the enterprise define its place in system of the economic activity of the enterprise management. Economic analysis is connected with all information subsystems of management of the enterprise and it is a resulting link that forms informational space for taking effective and reasonable management decisions on investment and innovative development of the enterprise.

Accounting system is a main information source, which forms information to analyzing and transferring in necessary form for planning. The account indices are controlled by means of analytical procedures and methods by establishing deviations from planned indices, changes in budget, norms and standards, which characterize influence of innovations and investments on the enterprise development. After that investment and innovative management decisions are taken.

Based on preceding, aim of the investment and innovative development of the enterprise is formation of information about necessity and influence of investment resources

on effectiveness of the economic activity of the enterprise, calculation of the effect of the invested and received innovations, and determination of positive and negative impact of factors on its investment and innovative development.

Economic and social development of society, transition to the model of investment and innovative development of agrarian economy and management sets are more complicated objectives to optimize actions of the economic entities, and its safe implementation will favor the improvement of the regulation of production, strengthening its economy and improvement of efficiency of each enterprise functioning [14]. On this basis investment and innovation development of agrarian economy of the whole country will be provided.

To sum up, results of the economic analysis allow diagnosing and controlling tendencies of improvement of quantitative and qualitative parameters of the production and economic activity of the enterprises through effective management decisions. Theoretical and methodological aspects of economic analysis, in terms of stated investment and innovative model of the development of agro-industrial complex enterprises economy, should be modernized as a result of the conducted research. Further scientific research should be concentrated on addition theoretical and methodological base of economic analysis with indices, which allow carrying out qualitative and fast analysis of investment and innovative activity of the agro-industrial complex enterprises for taking effective management decisions.

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DECONSTRUCTION OF FINANCIAL REPORT PURPOSES BASED ON INDONESIAN ECONOMIC SYSTEM: MOHAMMAD HATTA'S DEMOCRATIC ECONOMIC PERSPECTIVE

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ABSTRACT
This study intends to make alternative forms concept of financial reporting purposes. Forms of new financial reporting purposes are deconstructed according democratic economic (Indonesian's economy system). The research method used is qualitative with postmodernism as paradigm and deconstruction as a method. In making the construct, researchers extract Mohammad Hatta's thoughts and get three values. The values found are unity, government role, and divinity. This study produces a form of financial reporting that presents financial information with the aim of providing a sense of unity that accommodates the information needs of economic policy and means of worshiping to God for entities, workers, government, and investors.

KEY WORDS
Financial reporting, accounting, capitalism, democratic economic, deconstruction.

The purpose of financial reporting is the basis of the conceptual framework which is further used in the design of financial reporting standards. This is reflected in the conceptual framework of International Finance Reporting Standard / IFRS which was then adopted into *Pernyataan Standar Akuntansi Keuangan* / *PSAK* (Statement of Financial Accounting Standards of Indonesia) in 2005 by Indonesia. IFRS is the result of the Lisbon agreement. One of which is the strengthening of the EU economy implemented through the European Parliament and Council Regulation No. 1606 dated on 2002 July 19 (Palea, 2015). Financial reporting is intended to accommodate investors and protect them (see EPCR 1606 sections 1,2, and 4). The dominant role of financiers as the main actors in financial reporting reflects capitalism in accounting (Palea, 2015).

The purpose of financial reporting of capitalism is not without problems. According Mulawarman (2012) western capitalism has been "trapped" in the accounting arbitrariness and madness of capital ruler through entities to always be their most effective and efficient tool. Financial reporting of accounting results such as this dehumanizing human into "economic animals" as Triyuwono (2006) to gain profit as much as possible. Physically, capitalism in accounting will bring about a circular economic crisis due to the game of speculation. Crisis is the basic nature of capitalism which is a scourge for the country that implements it (Hamid, 2009). So financial reporting like this allegedly brings moral damage in the form of greed and physical damage in the form of a circular economic crisis.

The influence of the economic system of capital in financial reporting purposes to be biased if confronted with Indonesia's economic system. The economic system in Indonesia sees that the economy is structured as a joint effort based on kinship (Article 33 paragraph 1 of the 1945 Constitution). The economic system implemented in Indonesia known as the democratic economic (*ekonomi kerakyatan*). The originator was Mohammad Hatta, Indonesia's first vice president. Democratic economic have three main values are: unity, government role, and divinity.

The intellectual coercion of capitalism into the accounting dimension in Indonesia has become a growing topic in academia. Some researchers, such as Sitorus (2015), Triyuwono (2006), and Ludigdo (2012) see that the accounting that developed deviated from the values adopted by Indonesia, ideologically, definition (Sitorus, 2015), religion (Triyuwono, 2006) , and professional ethics (Ludigdo, 2012). The idea to deconstruct the accounting in Indonesia

continues to grow. This is triggered by dissatisfaction with the ability of capitalist economics to answer economic problems (including accounting) like what is being discussed by Mubyarto (1987) for decades. Research is continuing previous researchers to continue to criticize the accounting development in Indonesia.

One of the most critically acclaimed accounting dimensions is its purpose. Accounting objectives are directly textual written within the conceptual framework of financial reporting standards. Referring to Mubyarto (1987) who sees that joint economic development should be run with local knowledge, the objective of financial reporting is acceptable as long as it is in accordance with the values and national identity (Mulawarnan, 2011). So the optimal design of a financial report should depend on the characteristic of a specific economic and political system (Palea, 2015). For that purpose, this research is made to develop the concept of financial reporting objectives that are in line with the democratic economic system adopted by Indonesia.

LITERATURE REVIEW

Democratic Economic is a combination of the concept of world-famous economic system (capitalist and socialist) that is mixed by Mohammad Hatta that becomes a unique economic concept. The democratic economic born out from Mohammad Hatta's surfait due to Indonesian economic and social conditions at that time. The definition of a populist economy is an economic situation in which various economic activities are organized by involving the participation of all members of society, while the implementation of economic activities is under the control of the people. There are two main elements in the democratic economy and prosperity (Baswir , 1997: 4).

"Economics is the science that expresses an orderly knowledge of causal relationships and on the various problems that are seen around human goals to achieve prosperity" (Hatta, 1935).

"The economy comes from the words of Grik (Greek): *oikos* (house) and *nomos* (science). That is the science that governs the household. Household is only well organized, if spending money is arranged in such a way as to spend it, so as to achieve with it the greatest satisfaction. Not only do people have to save money, organize the spending as well as possible between today and the next day "(Hatta, 1935).

The quote above is Mohammad Hatta's thought about what an economy is derived from his writings entitled "Economy and Prosperity (1935)". Economics is about achieving a more perfect life. Economics is basically a struggle to live in the insistence of nature. Man does not live if he does not eat, does not eat if he does not try (Hatta, 1935).

In his life, human beings are faced with the need for constant satisfaction. The level of human satisfaction with the means of satisfying needs increases with increasing progress, society, and intelligence. The necessities of human life can be said to be infinite (Hatta, 1935).

When humans are confronted with an infinite need whether it will make people greedy and trying to scoop up the means of satisfying the greatest need? The answer is no, like the quote below:

"Such is the behavior of human need and the satisfaction of each of its goods. The more the amount of stuff to it, the less it feels. This fact is called in the economy: the *law for the less.* It is also called the first Gossen Law "(Hatta, 1935).

Mohammad Hatta emphasized that the human concept has been satisfied with the "as it is" needs satisfaction tool. If a need already have enough satisfied, then the satisfaction tool that comes later becomes less useful value or even become useless.

For Mohammad Hatta man is a social creature. As stated in the following quotation:

"And in that do not forget, that man never lives alone. Except in circumstances that force, like Robinson Crusoe on the island. Also Robinson who is remote and living with a self is coming from a crowded society. Humans are social beings. Since the world of human development has been found to live in villages "(Hatta 1935).

Man cannot be separated from other human beings. Humans live in a circle of civilizations with other humans. So also in meeting the daily needs and achieve prosperity, humans need other human beings. The level of prosperity is built by the society in which the human is born. The higher the civilization of society the higher the level of prosperity that must be achieved.

This social nature of human beings seems to be a contradiction to the economic activities that each human being is doing. Hunger, thirst, shelter and other necessities are attached to individual human beings (meaning humans have no collective need) and this economic ambiguity that will affect the attitudes and economic motives of each person. Therefore, they themselves should be able to fulfill it all not others (Hatta, 1935).

According to Mohammad Hatta (1935) economic law is attached to the human self individually. However, people live in society. The first thing to remember is that economic law is eternal throughout human life but the nature of economic law is the same as other laws that can change due to environmental factors, circumstances, national culture, state law, social organizations, ideals society and religion, moral and moral strength of the nation. The goal of achieving prosperity (economic law) is attached to the human self individually but the purpose of prosperity is influenced by society (social law). The concept of a balance between the values contained in the economy and the human need to live together as a social creature that eventually became the forerunner of Mohammad Hatta's thoughts on democratic economic.

Mohammad Hatta sees that Indonesia's rupture is in an age of economic crisis (Hatta, 1934). Crisis arising from capitalism which became the inheritance system of Dutch colonial a bag of Indonesia for 350 years. Capitalism is allegedly causing socio-economic classes, the elimination of government roles, and the elimination of God as the center of accountability. Democratic economic is a form of immunization created by Mohammad Hatta for Indonesia to avoid capitalist understanding. The three main values possessed by the populist economy which is the main ingredient to ward off the "disease" is the value of economic class unity, the value of the government's role, and the value of the divine.

The value of unity speaks of tearing down the social-economic vertical class formed from the economic system of capitalism into a horizontal role group. The value of government talks about the role of government in a parental economy. The divine value speaks of God's role as the center of human responsibility. These three values are extracted from Mohammad Hatta's thought which is believed to ward off capitalism. This study uses these three values in deconstructing the purpose of financial reporting.

METHODS OF RESEARCH

This research uses qualitative research methodology with postmodernism paradigm to answer problem arising from phenomenon. The problems that have occurred are entrenched strongly and not enough just to give suggestions and criticism. For that it is necessary to present a new form by destroying or by leaving a little old form. This process is called deconstruction. According Triyuwono (2012: 372-374) deconstruction is an effort to present other aspects that are beyond the big narrative. Deconstruction is often described as skeptical and destructive, such as dismantling a building in the sense that after being disassembled and then reassembled as the philosopher Jaques Derrida *"deconstruire"* which in French means "to dismantle the machine" (O'Donnell, 2003: 58).

This research uses Mohammad Hatta's thoughts on the economy. According to Kamayanti (2016: 189), Saharuddin (2009), and Wagiran (2011), researchers (especially non-positivist researchers) have the freedom to use local thought and wisdom into a methodology. Local thinking and wisdom are relevant to addressing local issues. In this study, Mohammad Hatta's thought was used as a "new value" which was incorporated as a new construct-building instrument (democratic economic) with the old construct (capitalism) as the foundation.

DISCUSSION OF RESULTS

Democratic economic is built on three main values of unity, government role, and divinity.

Unity. Mohammad Hatta (1933a) sees the Indonesian people divided into three societal economic structures: 1) The large capital class consists of the West; 2) The middle class (*middlestand)* consisting of Chinese, Arab, Bombai, and other Central Asian peoples; and 3) The *marhaen* class, the lower class of workers and the poor whose content is dominated by most Indonesians.

The large capital class has no obstacles in achieving prosperity because it has good economic capability in the production and distribution. The middle class *(middlestand)* is a mutual trade partnership in the conduct of production and distribution supported by large capital classes. The combination of large capital class and the middle class *(middlestand)* this makes *marhaen* depressed in the economy class (Hatta, 1933a).

The proper way to counter socio-economic class form is to unite it. The trick is to break down the horizontal class and turn it into a vertical group based on the properties of the work (Hatta, 1932). As stated in the following quotation:

"We do not deny that in our social circle there are also groups like peasants, workers (rough and smooth) and merchants" (Hatta, 1932).

"To find the unity of Indonesia that has no class we do not need to blend the peasants, our workers and our merchants become one of the same people. That certainly will not be there. While humans live the differences in skills and differences in nature will not disappear. And that difference is necessary to make a division of work! Only we must work, so that the differences of the people should not be the difference and the opposition of the economic class. The difference must be restored to the difference of *beroep*, the difference role" (Hatta, 1932).

The nature of the work is classified into three groups namely: 1) Group of producers; 2) consumer category; 3) Group of distributors (Hatta, 1933b). Then each of these groups build cooperatives and cooperate with each other to fight against the economic power of the invaders. After the invaders leave, it is expected that the people have mastered 3 major aspects in the economy ie production, consumption, and distribution. With this aspiration Mohammad Hatta to see people who are economically independent can be achieved.

The form of economic unity that is expected to emerge in the people's economic system is the synergy of all groups. From the example given by Mohammad Hatta are the merchants (the big capital and the *middle stand*) helping the people by lowering prices and selling the product of the peasants and workers (the *marhaen*) which will affect the purchasing power of the people. The high purchasing power of the people will again be an advantage for the merchants. This synergy which Mohammad Hatta wants to highlight is summed up as an altruistic form, a trait to help each other without reward. Nevertheless, the roles still get results according to what he does. So there is a sense of fairness for each group.

The Role of Government. As a country that still "creeps" in economy, the government has a big share in improving the economy. In the paradigm of populist economy, the government has three main functions namely educating (Noer, 2012: 41), supervising, and building from above (Hatta, 1977). According to Baswir (2009) the way the democratic economic places the government in the economic system is the antithesis of the capitalist system that discards the role of government outside (see Triyuwono *et al.* (2016: 257); Smith (1976); and Kennedy (2009)). Democratic economic cannot be equated with the *Keynesianism* that makes the government born from class crackdown and stands as the center of economic control (Turner, B eeghley, and Powers, 1981: 165). It could be said, the democratic economic system that stands in the middle of the two forms of this economic (Baswir, 2009).

The type of Indonesian economic system is a guided economy (Hatta, 1959). The word "state-controlled" does not mean the government holds all control. The government does not intervene in economic activity but has the function of issuing policies aimed at developing the

people's economy and protecting the people from private capital that leads to economic colonialism (see Hatta, 1973 and Hatta, 1977).

Divinity. Mohammad Hatta's commitment in running the Islamic Shariah influenced his thinking about the economy. As illustrated in the quote one of Mohammad Hatta's writings follows:

"...how man returns to the presence of God after his death brings nothing, other than a shroud wrapped in his body. All the treasures he acquired in the world left him as a stock of other human life. This is a show that the world belongs to Allah and is made solely for the abode of various derivatives" (Hatta, 1957).

According to Mohammad Hatta (1957) all forms of property, including assets and profits derived from the proceeds of true business belongs to Allah (Moslem's God) because there is an element of responsibility for all forms of business that have been done by humans. The system of capitalism sees property as part of the human self and man has full power over his possessions. There is no element of accountability to anything. This way of looking at greeds the nature of greed in man and makes it continually enrich without thinking of life after death.

Mohammad Hatta (1957) sees that property is used as a gift from Allah for man to be able to live in the world and must be distributed fairly and equitably. Equitable justice is the nature of man as a form of brotherhood and gives high value to himself and man living with him as God's creature in accordance with the teachings of Islam (Hatta, 1967). Democratic economy sees the advantages of property received by humans should be used as the driving wheel of the economy of the society in which people live (Hatta, 1935). Through this thought Mohammad Hatta (1935) assumes that the economy should be about regulating the human life in satisfying the necessities of life and increasing prosperity together which is then accountable to the owner of the true property of Allah.

Since 2005 the *International Standard of Financial Reporting* / *IFRS* name has emerged as a revolutionary breakthrough in accounting. IFRS is the result of the Lisbon treaty made by the EU on the development, guiding principles, and constitutional objectives. Such development is included in the social, cultural, political and economic fields. Under the agreement, the EU must work to develop an economic market that targets social performance and processes (Palea, 2015). IFRS was implemented and introduced by the European Union through *European Parliament and Council Regulation* 1606 of 2002 which appointed *International Accounting Standards Board* (IASB) as its designer (Palea, 2015). The mandatory of Regulation number 1606 of 2002 is to account for the accounting languages at European level in a set of high quality global standards that can be adapted by international capital markets (Palea, 2015).

Indonesia is one of many countries "forced" to adopt IFRS due to the pressure of international legitimacy (Hamidah, 2015). Adopting a global standard is considered a good deal if it talks about efficiency, but unfortunately is not able to solve problems of justice (see Mubyarto *et al,* 2014: 3). The public actually easily justifies that IFRS is built on the interests of the state of capitalism if it relies on the findings of Palea (2015), Gray's (1988) finding of cultural findings, Cieslewicz (2014) findings on institutional and accounting relationships, and human interests (egoistic, materialistic, and utilitarian) on the creation ofTriyuwono's findings (200 6). The public can also see from the composition of IASB members consisting of high-ranking public accountant firms and industry-owned capitalist countries (IASB, 2017). The attempt to filter capitalism in accounting adopted is to look at its separation slit.

Accounting and capitalism are two things that are not easily separated. These two things are metaphorically like a coin. The Chiapello (2005) study found that accounting is the beginning of the birth of the idea of capitalism. Chiapello (2005) examines the "debates" that emerged after the birth of Sombart's writings (1863-1941); a historian, economist, and sociologist of the German who wrote of the origins and development of capitalism entitled *De Moderne Capitalism* (see Shadilly 1987: 325). Sombart declares that accounting and capitalism are two things that can't be separated neither form nor context.

For Sombart (in Chiapello, 2005), accounting systems evolved in the direction of the developmental history of capitalism. Capitalism is born by accounting, while accounting

evolves with the needs of this system from time to time. The five hypotheses include the "*clarify*" concept of "*accumulation",* concept of "*rationalization on commerce",* concept "*system*", and concept "*separation of the business and its owner*".

These five hypotheses are denied by the arguments of Yamey, Winjum, Karl Marx, and various other economists (in Chiapello, 2005) who see that historically, the notion of capitalism existed before accounting was invented. Especially Marx who defines capital without using the term accounting. In addition, accounting is considered to follow the theoretical basis, belief, and economic system of its users. For example, when accounting was popularized by mathematician-religious named Pacioli (1445-1517). In the beginning he used *Double Entry Bookkeeping /* DEB as gratitude to God. In the rest of the world and at other times, the 6th century accountancy was used in Arabic during the Caliph Umar Bin Khatab (636M) as the recording of salaries, zakat and taxes for non-muslims (known as *jarridah* or *zournal* in Venice). In Islamic concepts, accounting is used as a form of human worship to God (See Nurhaya ti, 2014: 56-57; Triyuwono, 2006; and Triyuwono, 2012). Seeing the split apart from the side of history and ideas, accounting has a large space to modify.

This study sees the urgency of deconstructing financial reporting objectives for various reasons. The first reason, the uniformity of financial reporting standards is a form of constitutional imposition of a country to be subject to international rules regardless of cultural background, state system, beliefs, and economic system. According to Cieslewicz (2014) it is difficult to uniform financial reporting standards due to several factors. One of the factors is the cultural factor of the country and the historical background of the country. The second reason is the discrepancy between the foundations of knowledge believed by the capitalist system in the making of financial reporting objectives with the people's economic system adopted by Indonesia (See Mubyarto 1987: 5 and Mubyarto *et al* 2014: 3). As Mubyarto (1987: 5) says that there must be a consistency of economic practice with the underlying science. So there is no "copying" the negative part of the capitalist system into the people's economic system (referring to Cieslewicz, 2014).

The most ideal way is to deconstruct the adoption process of global financial reporting standards that have occurred in Indonesia. The study finds that the most appropriate part to be deconstructed is the financial reporting objectives contained in the conceptual framework of PSAK 1.01, 1.02, and 1.10. This study is trying to eliminate the values of capitalism that is in it, hereinafter incorporating new values from the populist economy. This study divides the purpose of financial reporting into two sub-discussions namely the purpose of financial reporting based on the function (object) and its users (subject).

Financial Reporting Objects. An explanation of the elements of the financial reporting object may actually be found within the conceptual framework of PSAK 1.01 and 1.12 cited as follows:

"The purpose of general purpose financial reporting is the basis of the Conceptual Framework. Other aspects of the Conceptual Framework concept of reporting entities, qualitative characteristics, and constraints, useful financial information, elements of financial statements, recognition, measurement, presentation, and disclosure-flow logically from their objectives"(Conceptual Framework PSAK 1.01).

"General purpose financial statements provide information about the financial position of the reporting entity, which is information about the entity's economic resources and claims against the reporting entity. The financial statements also provide information on the impact of transactions and other events that alter the economic resources and entity claims. Both types of information provide useful input for decision making regarding the provision of resources to entities. "(Conceptual Framework PSAK 1.12)

Based on the above quote the user can understand the function of financial reporting. Users use the financial statements as a source of information about the entity covering economic resources and transactions conducted by the entity in which it will change the form of those resources. From the information the user can learn many things including the constraints and potential that will be presented by the entity. So users can provide input and decisions about the entity.

The nature of this function when associated with a democratic economic system is considered not tangent. The reason is in building the economy, Indonesia needs physical information that can be learned by various types of users. The current financial reporting is considered to accommodate all types of people to learn the entity. Reflecting on the spirit of deconstruction to keep the constructs considered to be no problem, then this part of physical function is maintained.

Financial Reporting Subject. The subject of financial reporting discusses who to whom the financial reporting is intended. Subjects became a major concern in this study. Researchers see that the placement of investors, defined in the phrase "current investors and potential investors, lenders, and other creditors" dominates the conceptual framework of PSAK which speaks volumes about the purpose of financial reporting. Democratic economic sees it as a dominance that destroys the balance. Such dominance is broken down using the values contained in the system.

The concrete description of the pattern of deconstruction in this study can be seen in the following figure:

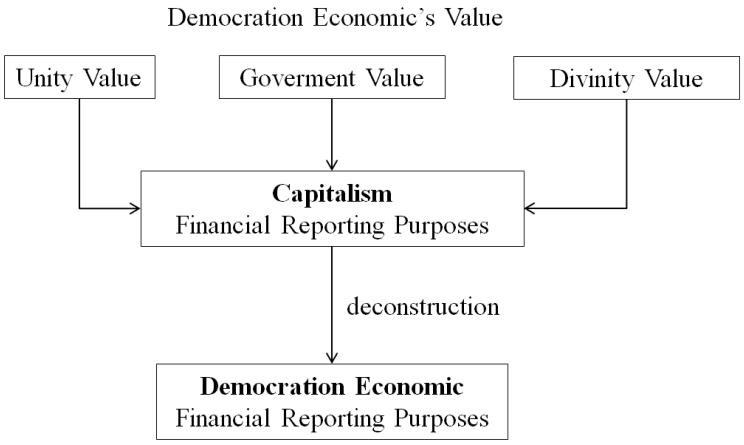

Figure 1 – Deconstruction of Financial Reporting Objectives

Figure 1 shows the fusion pattern of democratic economy premise: unity, governmental role, and divinity. This Premise is merged with the premise of capitalism about the separation of socioeconomic class, the omission of the role of government, and the objectivity of all ownership without God. Through this pattern will be found new subjects of financial reporting users.

Unity Construct. The unity of the socio-economic class is one of Mohammad Hatta's ideals to combat crisis and colonialism. The social classes that have been formed are fettering the people in a rope of dependence and eliminating the creation of social justice and common welfare. reflected in article 1 of the 1945 constitution of article 33: The economy is constituted as a joint effort based on kinship (Hatta, 1933a).

IFRS version financial reporting objectives reflect the separation of individual socioeconomic and moral classes. This can be examined through sentences written within the conceptual framework of PSAK 1.02 and 1.10 below:

"The general purpose financial reporting is to provide financial information about the reporting entity that is useful to current investors and potential investors, lenders and other creditors in making decisions about the provision of resources to the entity. Such decisions include the purchase, sale or ownership of equity instruments and debt instruments, as well as the provision or settlement of loans and other forms of credit. "(Conceptual Framework PSAK 1.02).

"Other parties, such as regulators and the public other than investors, lenders, and other creditors, can also benefit from general purpose financial statements. However, the report is not primarily addressed to the other party "(Conceptual Framework PSAK 1.10)

Focusing on this, researchers found some of the *difference* underlying researchers to deconstruct. Constructs that are considered to be *differences* are the values contained in the different objectives of financial capitalist reporting, lacking, and inconsistent with the essence of popular economic thinking about unity. The *difference* found can be seen in table 1 below:

Table 1 – Difference of socio-economic class unity

Difference (GAP)	Democratic Economic	Conventional Economic
Definition	The community is divided into roles as producer, distributor class, and consumer group	Society is divided into large classes of capital and working class
Moral	Justice	Efficiency
Aim	Common Prosperity	Profit
Objects	People	Financiers

Researchers found some symptom of neoclassical theory elements in the purpose of financial reporting so that there *difference.* The writing of sentences "are useful to current investors and potential investors, lenders and other creditors in making decisions about the provision of resources to the entity" on the conceptual framework of PSAK 1.0 is perceived as the main object in financial reporting. The word "useful" means "useful, bring good to...". Phrase "...current investor and potential investors, lenders, and other creditors..." is narrowing the scope of the object in order of financial reporting. Phrase "... making decisions about providing resources to the entity" is axiology usefulness of financial reporting. The initial perception that can be extracted from this sentence is: financial reporting is addressed to investors to make decisions about capital.

Narrowing of the scope of the object is reinforced in the conceptual framework of 1:10. in part it was found the sentence "...investors, lenders, and other creditors.." as the subject, and the phrase "…not mainly addressed to the other party" as a caption. This sentence creates a perception that: financial reporting is made not to parties other than the investor. Based on the explanation above, the researchers mapped the reader's perception of the role of the investor's financial statements as follows:

The perception of investors 1: Financial reporting is addressed to investors to make decisions about capital.

The perception of investors 2: Financial reporting is made not to parties other than the investor.

Conclusion: The other party cannot use the financial reporting in making decisions about capital.

From it, the researchers gain an understanding of the concept that financial reporting can only be used by the investor. Other parties who wish to use such information can not directly use it except using information other than financial reporting. Symptom shows partiality to the financial reporting on one hand. If it is associated with the neoclassical theory, then this sentence is applicable on individualism and personal welfare/class of its own.

Orientation financial reporting is also available from the financial reporting purposes. This orientation can be found in the elements of financial reporting. The elements of financial reporting can be found on the conceptual framework section 4, one of which discusses the company's performance. The focus of this study on conceptual framework PSAK 4:04 and 4:24 are applicable to the neoclassical theory of economic objectives.

"The financial statements portray the financial effects of transactions and other events that fall into several major groups according to their economic characteristics. A large group of these are elements of the financial statements. The elements directly related to the measurement of financial position in the statement of financial position are assets, liabilities, and equity. While the elements related to performance measurement in the income statement are income and expenses. Statement of changes in financial position usually reflects elements of the income statement and the changes in the elements of the balance

sheet; thus, ED this Conceptual Framework identifies no elements in the statement of changes in financial position in particular. "(PSAK conceptual framework 4:04)

"Profit is frequently used as a measure of performance or as the basis for other sizes such as investment returns (*return on investment*) or earnings per share (*earnings per shar*e). The element that is directly related to the measurement of profit is income and expenses. The recognition and measurement of income and expenses, and profit, depends in part on the concepts of capital and capital maintenance used entities in preparing their financial statements. "(PSAK conceptual framework 4:24)

Sentences in conceptual PSAK 4:04 and 4:24 lead to a new perception of the financial reporting purposes. Analysis as follows:

The perception of investors 1: Financial reporting is addressed to investors to make decisions about capital

Perceptions of profit 1: financial reporting forming elements are two types of reports. Statement of financial position to measure the financial position and statements l aba loss to measure performance

Perceptions about income 2: Gain is a measure of the performance of the company as capital returns

Perceptions about income 3: Profit and related capital

If the merger between the perception of investors first, profit first, profit second, and profit 3 then readers of the financial statements will have a new perception that: Financial reporting is addressed to investors to make decisions about capital with reciprocal form of profit, where profit is the information in measuring performance.

This perception is the premise of the neoclassical theory of the object and purpose of financial reporting in accordance it's construct with democratic economic theory about the value of unity. First, narrowing the scope of the usefulness of financial reporting for investors just cause classification. Financiers are considered as the class that has the power of capital and decision to reciprocal form of profit.

Decision glasses democratic economic capital is the dominance of the production arrangement (specify and create the factors of production), distribution (selling), and consumption (enjoying profit). The dominance of this kind would create a socio-economic classes. So there should be clarity and division of roles in it. In neoclassical theory, the economy is the domination of the financiers' role in controlling workers. However, the economic role of the people's economy is divided into three namely the production community and workers as producers and traders as a distributor. Financiers' location is outside a production decision. Its task is to prepare a capital and production factors with reciprocal results already agreed. Furthermore, manufacturers, distributors, and financiers acting as a consumer savor the following production profits are equitably shared.

To that end, the writing proper financial reporting purposes to describe business conditions in the democratic economic spectacles related to economy class unity is as follows:

General purpose financial reporting to provide financial information reporting entity related activities of production, distribution, and consumption that are useful for the parties involved in the entity. The information in financial reporting as well as the distribution of the results of operations for the entity as part of the development workers as a major part of movement activities of the entity, the public in the environmental entities, and financiers consisting of potential investors, lenders, and other creditors in the provision of resources to the entity.

Government Constructs. Financial reporting does not accommodate the interests of the government in making goal. According to neoclassical theory perspective, the government is outside the economic system and the destroyer of the market order if do intervention. The separation between government and business set out in the conceptual framework of 1:10 as follows:

"Others, such as regulators and the public other than investors, lenders, and other creditors, too, can benefit from the general purpose financial statements. However, the report is mainly addressed to the other party "(SFAS conceptual framework 1.10)

Financial reporting is not designed to provide special benefits for the regulator (in this case the regulator is a government). A discussion of the role of government in the conceptual framework of SFAS only teletak on grants (see conceptual framework 3:16 and 4:13). The government only got a meager portion for financial reporting.

Researchers found *difference* between neoclassical theory and social economy associated with a portion of the government's role in the financial reporting, the summary can be seen in table 2 below:

Table 2 – *Difference* Role of Government

Difference (GAP)	Democracy Economic	Conventional Economic
Definition	The government is a regulator and provider of economic policies	The government is the regulator and providers of legal policy, politics, and other matters beyond economics
Moral	paternalism	there is no
Aim	Set the course of economy	there is no
Objects	Material, social, cultural, and political	Material

The government's role is very small if the readers of the report see the conceptual framework. Design of financial reporting conceptual framework for the government was minimal. The phrase "appropriate representation" describes the entity that will only make a report to the government is, or even memorable underestimated. Whereas democratic economy puts the government in a very large portion. Mohammad Hatta stressed that the production branches which are important for the people and serving the people controlled by the state. That is, the government as well as investors, requires the same level of information but with a different measurement points. As supporting information, the reports provided to the investors and the government must be in a form that is made by the company. To support this it is necessary to set in financial reporting purposes.

Researchers believe there needs to be a sentence that clearly demonstrates the usefulness of financial information against the interests of the government. However, not the government is not directly involved in the business. Back to PSAK 1:10, the phrase "other parties, such as regulators in addition to workers, the public, investors, lenders, and other creditors" will be retained to emphasize the separation of government business. It should be added the phrase "…benefit from the financial statements. Financial reporting should provide information that is useful to the regulator..." to made clear that the government also needs information that is equally important in monitoring and set policy. With the existence of this sentence, the entity is certainly obliged to provide the information required by the government.

Therefore, in the financial reporting purposes, there must be democratic economic version of the following points:

Other parties, such as regulators in addition to workers, the public, investors, lenders, and other creditors can savor the financial statements. Financial reporting should provide information that is useful to the regulator with regard to policy administration, enforcement, and supervisor of the entity to remain in the economical goal of prosperity and justice for all Indonesian people.

Divinity Constructю Value God played a role in the thinking of Mohammad Hatta on social economy. Democratic economy comes from the spirit of collectivity, justice, and the spirit of brotherhood. Those values born from Islam about togetherness. Indonesia is a collective society, rooted in the high customs, and develop in accordance with the demands of modern times. This trait then becomes the origin and the birth of the spirit of *gotong royong* (Indonesian motto of togetherness) (Hatta, 1979).

According to Mohammad Hatta (1967) *gotong royong* is the original nature of Indonesian society. *Gotong royong* contained in the common values that see that economic activity should give priority to cooperation between people in a family atmosphere, free from oppression and coercion. Economic activity must respect the man as a creature of God accountable. Accountability includes himself to the owner of the world, namely, God, family

and society as well as in the environment. This trait became one of the foundations of a democratic economic textual written in the 1945 Constitution article 33, paragraph 1.

Readers of the financial statements will not be able to find the word "God" in the conceptual framework, especially in financial reporting purposes. For adherents of neoclassical, God is in the home, not on the market. The nature of God for the capitalists is private. The relationship between man and God is limited to worship, while the economy is the relationship between humans and other humans. Neoclassical understanding of God be contrary to the people's economy which raises the *difference* which are summarized in Table 3 below:

Table 3 – *Difference* Divinity

Difference (GAP)	Economic Democracy	Conventional economics
Definition	God is the center of accountability	God is a private affair of man outside market
Moral	*Wahyu illaiyah* (Divinity)	there is no
Aim	Worship	there is no
Objects	Human	there is no

Democratic economic has a strong bond with God. In contrast to neoclassical theory born from the observation of demand and supply, as well as socialist theory born from the pressure of social class. Economic precisely Mohammad Hatta was born from the need to implement the right economic pattern based on religion that he had faith. Democratic economic be redefined by Mubyarto as Pancasila economy also have the same confidence, that the main moral economy in Indonesia is revelation (Mubyarto, 1987: 53).

God's role in the economy has two things to be basic. First, the business is part of the worship of mankind who will be accountable to God. Second, the business humanizing as a real form of brotherhood. Thus, the financial statements must be able to provide information that remains to describe the lawful and unlawful business enterprise. Reporting no longer allowed to make man as an expense deduction from earnings.

For the purpose of financial reporting should be a relevant passage illustrates the necessity of companies to remain in the hall and away from the ban command of God. Alenia contains sentences that describe the presence of God in the entity, referrals to do business according to the commandment of God, and God as the center of the accountability. So one of the objectives of financial reporting are:

Special purpose financial reporting as an entity in the main control ensures the operation of activities in accordance with the values of divinity. Financial reporting is the embodiment of the assets given responsibility in the form of earth, water, and everything contained in it.

Embodiment Consequencesю The researchers offer some of the consequences that can be from the community economy financial reporting purposes, even though this nature is an alternative form, so it is not an absolute to follow. There needs to be further development be it in the form of research and application.

The first consequence is the orientation of the company's performance. Democratic economy adjust more aspects than just conventional economic organize the material. Democratic economic organize the material, social, cultural, and political. Thus, with a economic democratic financial reporting purposes, the company's performance is not only measured by profit. But the size of social justice and political measure. Financial reporting will have several new reports in addition to the income statement. There are reports of social and justice for measuring the welfare of workers and the surrounding community. There are reports that it set policy on matters related to the information required by local and national government in terms of supervision. During this time no other reporting set 2 things,the CSR report and fiscal reports for tax reconciliation, unfortunately two separate reporting and voluntary nature. The form of reports that regulate the social, cultural, political and still need to be considered and investigated further.

A second consequence is positioning human. Democratic economy put God at the center of responsibility. As the form is subject to God, humans are obliged to respect other

human beings. Financial reporting can no longer put a man as a burden because it is a form of dehumanization of human beings into objects and economic animal (see Sitorus, 2015; Triyuwono; 2006b).

The final consequence is awareness on all sides about the dogma of neoclassical economics that are grown and rooted firmly. This study is a prod to examine other aspects in accounting and economics in Indonesia which is already irrelevant to the nation's economic objectives. The studies both in the field of academics and practitioners. Economic democratic development that creates a modern and more weight as the nation's ideals officials such as Mohammad Hatta, and scholars such as Mubyarto and Baswir: restoring economic goals of Indonesia to create wealth and prosperity with justice.

CONCLUSION

The purpose of financial reporting used as the basis for the formation of financial reporting standards. This is reflected in the conceptual framework of International Finance Reporting Standards / IFRS which was later adopted in Indonesia as Pernyataan Standar Keuangan/PSAK (Statement of Financial Accounting Standards in Indonesia). The main component of global financial reporting standards is the European Union and the countries of the Anglo-Saxon majority sensible liberal political and capitalism. The problem is that Indonesia has a democratic economic system which is the antithesis of capitalism. The research looked global standards as a form of modern economic imperialism. Part troubled in financial reporting standard is the purpose.

This research is trying to find alternative forms of financial reporting purposes in accordance with Indonesia. Alternative form used is the economic democratic perspective promoted by Mohammad Hatta. The premise of the people's economy used as a deconstruction of the financial reporting purposes resulting from Mohammad Hatta's literature.

From the literature study obtained democratic economic premises are unity, the role of government, and the value of God (divinity). Premises are used for deconstructing financial reporting purposes form. This deconstruction does not completely eliminate the old constructs to maintain constructs that are deemed relevant to the democratic economic. This research resulted in a financial reporting form that presents financial information with the aim of providing a sense of unity that accommodate the needs of economic policy information and means of worship to the Lord for the entity, workers, governments, and investors.

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INFLATION FORECAST IN INDONESIA: EXPENDITURE GROUPS OF HOUSING, WATER, ELECTRICITY, GAS, AND FUEL USING TIME SERIES ANALYSIS APPROACH

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ABSTRACT
Inflation stability is a prerequisite for sustainable economic growth. Appropriate information that can be used to manage and control the inflation rate is future inflation prediction. Expenditure groups of housing, water, electricity, gas and fuel have major commodities which have strong influence on inflation spike, so that it is necessary to give more attention in the inflation rate management for those expenditure groups. The aim of this research is to perform inflation model and forecast using time series analysis approach. The data used in this research are Indonesian's monthly inflation data for the expenditure groups of housing, water, electricity, gas and fuel which are taken from BPS Indonesia.

KEY WORDS
Inflation, time series, ARIMA, MSE.

Inflation stability is a prerequisite for sustainable economic growth, which in turn will provide benefits for the improvement of social welfare (Lusia and Suhartono, 2011). Indonesia has a higher inflation value from neighboring countries and is the country with the highest inflation rate in ASEAN since 2013 (Akbarwati, 2015). There are several commodities that play a major role in the inflation rate in Indonesia, including electricity, water and fuel which contribute the highest inflation rate (BPS, 2014). These commodities are joined into the inflation in expenditure groups of housing, water, electricity, gas and fuel. BPS data show that the expenditure groups have the highest basic weight value in general measurement of inflation which reaches 25.41% (Wibowo, 2014).

One of inflation management is to forecast the inflation, (Stock and Watson, 1999). Inflation forecast is a bridge to know the inflation value of the following period, (Faust and Wright, 2013). Obtaining an accurate value of inflation forecast will be important for many parties; namely to establish monetary and fiscal policies, make investment decisions and discover the extent of people's purchasing power (Tzavalis and Wickens, 1996).

Previous research on inflation conducted by Lusia and Suhartono (2011) had a general inflation forecast in Indonesia regardless of certain sub-commodities. In addition, another research conducted by Cahyuni (2012) had a model for inflation in foodstuffs group. Previous research had not specifically addressed the inflation for expenditure groups of housing, water, electricity, gas and fuel. Actually, the groups have a significant impact on the development of Indonesian economy.

Based on the above description, the authors are having monthly inflation forecast in Indonesia to the expenditure groups of housing, water, electricity, gas and fuel by time series analysis approach (McCleary et al., 1980). The inflation values of the following period can be predicted by using time series analysis. The model used in this research is autoregressive integrated moving average (ARIMA). This model assumes that the residual model is white noise and normal distribution. Model estimation is conducted by using Maximum Likelihood Estimator method.

Sketchily, inflation is defined as the rise of prices generally and continuously. The indicator used to measure the inflation rate in Indonesia is Consumer Price Index (CPI). The calculation of inflation for each month is:

$$IR_n = \frac{I_n - I_{(n-1)}}{I_{(n-1)}} \times 100 \quad (1)$$

Where:

IR_n = Inflation rate at month n;
I_n = Consumer Price Index at month n;
$I_{(n-1)}$ = Consumer Price Index at month (n – 1).

ARIMA is a model that completely ignores independent variables in making the forecast. ARIMA uses past and present values of dependent variable to generate the forecast. The ARIMA model (p, d, q) is a forecasting model for time series data which has p level of autoregressive model, q level of moving average, and d-difference is taken to make it stationary. The general form of ARIMA equation (p, d, q) is:

$$\phi_p(B)(1-B)^d Z_t = \theta_q(B)\varepsilon_t \quad (2)$$

The complete ARIMA (p, d, q) model can be written as follows:

$$W_t = \phi_1 W_{t-1} + \cdots + \phi_p W_{t-p} - \theta_1 \varepsilon_{t-1} - \cdots - \theta_q \varepsilon_{t-q} + \varepsilon_t \quad (3)$$
$$W_t = (1-B)^d Z_t$$

METHODS OF RESEARCH

The data used in this research are Indonesian's monthly inflation data for the expenditure groups of housing, water, electricity, gas and fuel from February 2009 to January 2015. The data source is secondary data. The data are obtained from the Central Bureau of Statistics Indonesia (BPS). The steps of data analysis can be explained as follow: identify the stationarity of the data to the mean and variance. If the data are not stationary to variance then Box-Cox transformation is conducted. Meanwhile, if data is not stationary to mean then differencing is conducted; identify the model by looking at ACF and PACF plots based on the data that have already been stationary; conduct the estimation of model parameters by using Maximum Likelihood Estimator method; conduct the significance testing of the parameters with the t-test; conduct the diagnostic checking to see if the residual model is white noise through Ljung Box test and if it has a normal distribution through Kolmogorov-Smirnov test; choose the best model based on the lowest forecasting result of MSE.

RESULTS AND DISCUSSION

Identification of Data Stationarity. Identification of stationarity is conducted firstly by plotting the data.

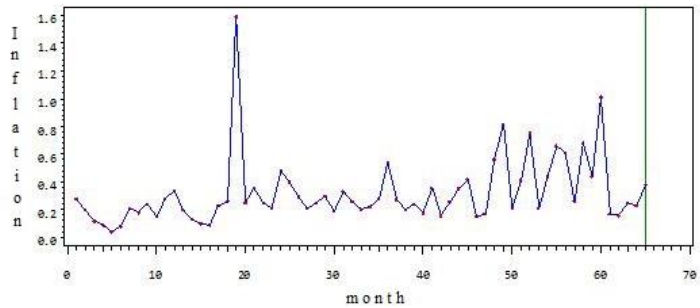

Figure 1 – Plot Time Series of Data Inflation

Plotting is conducted to see if the data has a trend and has met the stationarity in the mean and variance. Identification of data stationarity can be obtained from the time series plot diagram in figure 1.

Based on the figure above, the data pattern shows an unstable in the mean because the plot shows a fluctuated pattern. The variance pattern of the data is not stationary as well, because the variance width of the data is quite varied. The data is not stationary then it necessary to conduct transformation and differencing to make the mean and variance stationary. The first step of data stationarity is to look at the value in the Box-Cox transformation diagram which is displayed in the following figure.

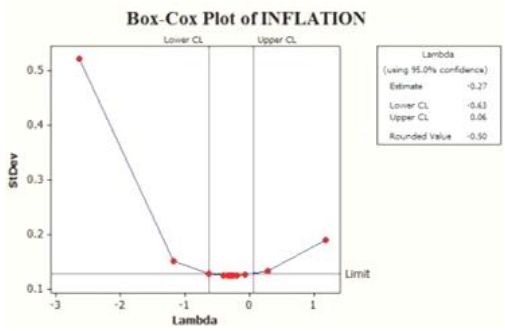

Figure 2 – Box-Cox Transformation Diagram

The Box-Cox transformation diagram shows a value of -0.5, so the data are transformed by using the transformation formula. The time series plot for the transformation data is displayed in the following figure.

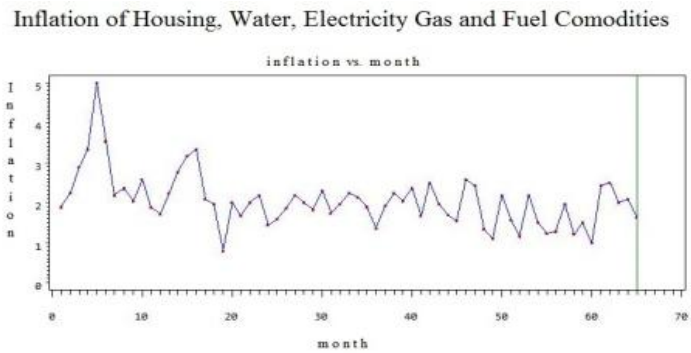

Figure 3 – Plot Time Series of Transformation Data

Next, to see the data stationarity in the mean should check the ACF plot of transformation data. The ACF plot of transformation data is displayed in the following table.

Table 1 – Plot ACF Data Transformation

Autocorrelations

Lag	Covariance	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1	Std Error
0	0.437615	1.00000	| |**********|	0
1	0.226179	0.51684	| . |********** |	0.124035
2	0.111420	0.25461	| . |*****. |	0.153636
3	0.049904	0.11404	| . |** . |	0.159995
4	0.044298	0.10123	| . |** . |	0.161241
5	0.046278	0.10575	| . |** . |	0.162216
6	0.024657	0.05634	| . |* . |	0.163273
7	0.047035	0.10748	| . |** . |	0.163572
8	0.044422	0.10151	| . |** . |	0.164655
9	0.039983	0.09137	| . |** . |	0.165615
10	0.092059	0.21037	| . |**** . |	0.166388
11	0.097472	0.22274	| . |**** . |	0.170431
12	0.054258	0.12399	| . |** . |	0.174852
13	-0.011055	-.02526	| . *| . |	0.176199
14	-0.069256	-.15826	| . ***| . |	0.176255
15	-0.028050	-.06410	| . *| . |	0.178428
16	-0.029129	-.06656	| . *| . |	0.178782

The table above shows that the transformation data have an ACF plot that slowly and exponentially decreases, so the data have not been stationary in the mean and then differencing lag 1 is conducted to the transformation data. The plot time series for differencing lag 1 data is displayed in the following figure.

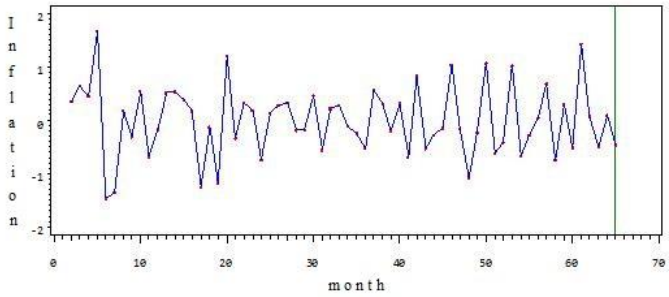

Figure 4 – Plot Time Series of Differencing Lag 1 Data

Next, ACF and PACF plot are checked on the differencing lag 1 data. ACF plot of differencing lag 1 data is displayed in the following table:

Table 2 – ACF Plot of Differencing Lag 1 Data

Autocorrelations

Lag	Covariance	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1	Std Error
0	0.426238	1.00000	||**********	0
1	-0.094262	-.22115	.****| . |	0.125000
2	-0.053091	-.12456	. **| . |	0.130971
3	-0.052408	-.12295	. **| . |	0.132809
4	-0.0042505	-.00997	. | . |	0.134576
5	0.010665	0.02502	. |* . |	0.134587
6	-0.044668	-.10480	. **| . |	0.134660
7	0.023776	0.05578	. |* . |	0.135928
8	0.0060456	0.01418	. | . |	0.136285
9	-0.060679	-.14236	. ***| . |	0.136308
10	0.045307	0.10629	. |** . |	0.138612
11	0.050779	0.11913	. |** . |	0.139880
12	0.028214	0.06619	. |* . |	0.141456
13	-0.012840	-.03012	. *| . |	0.141940
14	-0.097400	-.22851	.*****| . |	0.142039
15	0.047418	0.11125	. |** . |	0.147672
16	-0.046696	-.10955	. **| . |	0.148976

PACF plot of differencing lag 1 data is displayed in the following table:

Table 3 – PACF Plot of Differencing Lag 1 Data

Partial Autocorrelations

Lag	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1
1	-0.22115	| .****| . |
2	-0.18238	| .****| . |
3	-0.21301	| .****| . |
4	-0.14089	| . ***| . |
5	-0.08675	| . **| . |
6	-0.20349	| .****| . |
7	-0.08526	| . **| . |
8	-0.07993	| . **| . |
9	-0.26623	| *****| . |
10	-0.08065	| . **| . |
11	0.03613	| . |* . |
12	0.06151	| . |* . |
13	0.08217	| . |** . |
14	-0.16494	| . ***| . |
15	0.01084	| . | . |
16	-0.14171	| . ***| . |

ACF and PACF plots of differencing lag 1 data show both ACF and PACF values have not been correlated across the Bartlett line, so it will be difficult to identify the model. Therefore, differencing is necessarily conducted again. The result of plot time series for the data, after the second differencing, is displayed in the figure below:

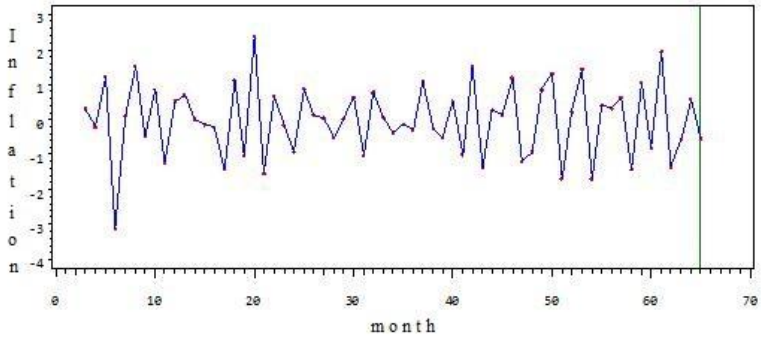

Figure 5 – Plot Time Series Data of the Second Differencing

The figure above shows that the second differencing of the data has shown a stationary pattern, since the data have been stationary, then the data can be used for the model identification step.

Model Identification. Inflation data that has been stationary then being checked for its ACF and PACF plots. Results of ACF and PACF plots of inflation data are used to estimate a temporary model. The ACF plot of inflation data is displayed in the following table.

Table 4 – ACF Plot of Inflation Data

Autocorrelations

Lag	Covariance	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1	Std Error
0	1.052069	1.00000	||**********	0
1	-0.568407	-.54028	|**********| . |	0.125988
2	0.037806	0.03594	| . |* . |	0.158555
3	-0.051162	-.04863	| . *| . |	0.158684
4	0.061637	0.05859	| . |* . |	0.158920
5	0.056758	0.05395	| . |* . |	0.159263
6	-0.128355	-.12200	| . **| . |	0.159553
7	0.082567	0.07848	| . |** . |	0.161027
8	0.055423	0.05268	| . |* . |	0.161633
9	-0.173063	-.16450	| . ***| . |	0.161905
10	0.096810	0.09202	| . |** . |	0.164536
11	0.021440	0.02038	| . | . |	0.165351
12	0.031155	0.02961	| . |* . |	0.165391
13	0.034381	0.03268	| . |* . |	0.165475
14	-0.233559	-.22200	| . ****| . |	0.165578
15	0.263420	0.25038	| . |***** . |	0.170237

The ACF plot of inflation data in Figure 4.9 shows that the autocorrelation value is exit or cut after the lag 1, so it can be concluded that statistically there is a significant correlation in lag 1. Next, PACF plot of inflation data is displayed in the following table:

Table 5 – PACF Plot of Inflation Data

Partial Autocorrelations

Lag	Correlation	-1 9 8 7 6 5 4 3 2 1 0 1 2 3 4 5 6 7 8 9 1
1	-0.54028	| **********| . |
2	-0.36148	| *******| . |
3	-0.35331	| *******| . |
4	-0.28206	| ******| . |
5	-0.11962	| . **| . |
6	-0.20743	| .****| . |
7	-0.15891	| . ***| . |
8	0.01975	| . | . |
9	-0.17544	| .****| . |
10	-0.19769	| .****| . |
11	-0.14035	| . ***| . |
12	-0.07668	| . **| . |
13	0.16475	| . |*** . |
14	-0.05892	| . *| . |
15	0.09901	| . |** . |

PACF plot of figure 4.10 shows that the PACF value is cut to the 4th lag, then the estimation of appropriate model are ARIMA (0,2,1), ARIMA (1,2,0), ARIMA (2,2,0), ARIMA (3,2,0), ARIMA (4,2,0), ARIMA (1,2,1), ARIMA (2,2,1), ARIMA (3,2,1), and ARIMA (4,2 ,1).

Estimation of Model Parameter. After the model is obtained, the next step is to estimate the parameter of the model. Summary of parameter estimation results for some appropriate model estimations can be seen in Table 6.

Table 6 – Results of Model Parameter Estimation

Model	Model Parameter	Coefficient	p-value	Description
ARIMA(0,2,1)	θ_1	-0.97009	<0.0001	The model is significant
ARIMA(1,2,0)	ϕ_1	0.27107	<0.0266	The model is significant
ARIMA(2,2,0)	ϕ_1	0.39782	0.0003	The model is significant
	ϕ_2	-0.50789	<0.0001	
ARIMA(3,2,0)	ϕ_1	0.40739	0.0017	The model is not significant
	ϕ_2	-0.51366	<0.0001	
	ϕ_3	0.01707	0.8950	
ARIMA(4,2,0)	ϕ_1	0.41950	0.0010	The model is not significant
	ϕ_2	-0.71741	<0.0001	
	ϕ_3	0.15133	<0.2738	
	ϕ_4	-0.36338	0.0037	
ARIMA(1,2,1)	ϕ_1	-0.45001	0.0025	The model is not significant
	θ_1	-0.99999	0.8656	
ARIMA(2,2,1)	ϕ_1	-0.27263	0.0361	The model is not significant
	ϕ_2	-0.17763	0.1715	
	θ_1	-0.99252	<0.0001	
ARIMA(3,2,1)	ϕ_1	-0.34308	0.0201	The model is not significant
	ϕ_2	-0.23499	0.0755	
	ϕ_3	-0.26354	0.0693	
	θ_1	-0.99995	0.8458	
ARIMA(4,2,1)	ϕ_1	1.08144	<0.0001	The model is significant
	ϕ_2	-0.96923	<0.0001	
	ϕ_3	0.51404	0.0037	
	ϕ_4	-0.35831	0.0062	
	θ_1	0.75711	<0.0001	

Based on table 4.2, it can be seen that ARIMA (0.2,1), ARIMA (1,2,0), ARIMA (2,2,0), and ARIMA (4,2,1) models have been significant, since those models have p-values less than 0.05. From these results, it can be concluded that temporary models that can be used for the next process are ARIMA (0,2,1), ARIMA (1,2,0), ARIMA (2,2,0), and ARIMA (4,2,1) models.

Diagnostic Check. Models whose parameters have been significant, subsequently performs a diagnostic check to see if the residual and the residual variance of the model meet the modeling assumptions. First, test is conducted to see whether the residual model is white noise or not. The test of residual white noise is conducted by using the statistic of Ljung Box test. Results Ljung Box Test can be seen in Table below.

Table 7 – Residual Results of Ljung Box Test

Model	Up to lag	p-value	Description
ARIMA(0,2,1)	6	0.3604	White noise
	12	0.5553	
ARIMA(1,2,0)	6	0.0062	Not white noise
	12	0.0125	
ARIMA(2,2,0)	6	0.1658	White noise
	12	0.2626	
ARIMA(4,2,1)	6	0.4167	White noise
	12	0.3996	

Based on the results obtained from Ljung Box test in table 4.2, it can be concluded that there are four models from the temporary model and there are three models of residual white noise: ARIMA (0,2,1), ARIMA (2,2,0) and ARIMA (4,2,1) models. Residual model is also assumed to have normal distribution; therefore, residual normality test is conducted by using

Kolmogorov-Smirnov test. The results of Kolmogorov-Smirnov test can be seen in Table below.

Table 8 – Results of Kolmogorov-Smirnov Test

Model	Statistic Test	p-value	Description
ARIMA (0,2,1)	0.043267	>0.15	Residuals are normally distributed
ARIMA (1,2,0)	0.081879	>0.15	Residuals are normally distributed
ARIMA (2,2,0)	0.055423	>0.15	Residuals are normally distributed
ARIMA (4,2,1)	0.058485	>0.15	Residuals are normally distributed

Table 8 shows that the four residual models tested have a normal distribution. From the results of diagnostic check that has been conducted before, it can be concluded that from the first estimation of four models, there are three temporary models that nearly meet the assumptions of ARIMA model (0.2,1), ARIMA (2,2,0) and ARIMA (4,2.1). Next, the three models will be re-selected for one the best model that will be taken for forecasting.

Best Model Selection. From the three temporary models: ARIMA (0,2,1), ARIMA (2,2,0) and ARIMA (4,2,1), the best model is the model that has the lowest forecasting value of MSE. The comparison results of forecasting results of MSE are shown in Table 9 below.

Table 9 – Results of MSE Forecasting

Model	MSE Forecasting
ARIMA(0,2,1)	0.293764
ARIMA(2,2,0)	0.395519
ARIMA(4,2,1)	0.331832

Based on the results in table 9, it is known that the ARIMA model (0.2,1) has the lowest MSE forecasting value of 0.293764; therefore it can be concluded that the best model for inflation forecast of housing, water, electricity, gas and fuel groups is ARIMA model (0,2,1).

ARIMA (0.2,1) model can be probabilistically written by the following equation:

$$(1-B)^2 Z_t^* = (1-\theta_1 B)\varepsilon_t$$

$$(1-2B+B^2)Z_t^* = (1-\theta_1 B)\varepsilon_t$$

$$Z_t^* - 2Z_{t-1}^* + Z_{t-2}^* = \varepsilon_t - \theta_1\varepsilon_{t-1}$$

$$Z_t^* = \varepsilon_t - \theta_1\varepsilon_{t-1} + 2Z_{t-1}^* - Z_{t-2}^*$$

$$\frac{1}{\sqrt{Z_t}} = \varepsilon_t - \theta_1\varepsilon_{t-1} + \frac{2}{\sqrt{Z_{t-1}}} - \frac{1}{\sqrt{Z_{t-2}}}$$

$$Z_t = \frac{1}{\left(\varepsilon_t - \theta_1\varepsilon_{t-1} + \frac{2}{\sqrt{Z_{t-1}}} - \frac{1}{\sqrt{Z_{t-2}}}\right)^2}$$

$$Z_t^* = \frac{1}{\sqrt{Z_t}}$$

So, the equation of ARIMA (0,2,1) model for inflation value of expenditure groups od housing, electricity, water, gas, and fuel is:

$$Z_t = \frac{1}{\left(\varepsilon_t + 0{,}97009\varepsilon_{t-1} + \frac{2}{\sqrt{Z_{t-1}}} - \frac{1}{\sqrt{Z_{t-2}}}\right)^2}$$

CONCLUSION AND SUGGESTIONS

Based on the results of the research and discussion that have been described in the previous chapters, it can be drawn some conclusions as follows:

The best model that can be used for Indonesian's monthly inflation forecast for expenditure groups of housing, water, electricity, gas and fuel is ARIMA (0,2,1) model.

The equation of ARIMA (0.2,1) model for Indonesian's monthly inflation forecast for expenditure groups of housing, water, electricity, gas and fuel is:

$$Z_t = \frac{1}{\left(\varepsilon_t + 0{,}97009\varepsilon_{t-1} + \frac{2}{\sqrt{Z_{t-1}}} - \frac{1}{\sqrt{Z_{t-2}}}\right)^2}$$

The forecasting value of MSE of ARIMA (0,2,1) model is 0.293764.

The value of inflation is often fluctuating and is influenced by many external factors; for example, the hikes of fuel price, the changes of socio-political policy, natural disasters etc. Therefore, the forecasting of inflation value for further research is suggested to use time series analysis approach which includes other external factors, such as transfer function model, intervention, etc.

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FINANCIAL AND ECONOMIC APPRAISAL OF IRRIGATED RICE ENTERPRISE: CAPITAL BUDGETING APPROACH

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ABSTRACT
The need to ensure the viability and sustainability of agricultural investments in Nigeria, particularly in Niger State, juxtaposed with the national agricultural policy goal of food security attainment, demands that proposed agricultural investments are well appraised and designed. This article therefore determined the financial and economic viability and sustainability of irrigated rice enterprise in Kawo Irrigation Site in Kotangora, Niger State, Nigeria. The methodology was based on the economic theory of utility maximization cum profit motive. To achieve these objectives, the capital budgeting tools of discounted cash flow, net present value, financial and economic internal rate of returns were used. The results showed that the estimated NPVs were positive, while the IRR were higher than the opportunity cost of capital under the two scenarios considered; implying that irrigated rice enterprise will be financially viable to enhance the net returns to farmers, while generating positive externalities to the agriculture sector of Niger State and Nigeria in general. The sensitive analysis revealed that the financial and economic internal rate of returns were more sensitive to changes in irrigated rice yields under both scenarios analysed. The study concluded that irrigated rice production will be financially and economically profitable and sustainable in the site and thus, recommended investment on irrigated rice intensification, premised on the adoption of improved agricultural inputs and associated technologies.

KEY WORDS
Agricultural investment, financial and economic viabilities, discounted cash flow, net present value, financial internal rate of return, economic internal rate of return, rice, food security.

Nigeria's rice consumption has risen tremendously since the mid-1970s (Akande, 2003), with the current demand and supply gap, put at 4 million, largely attributed to inadequate supply chain integration (Federal Ministry of Agriculture and Rural Development, 2016). The Federal Ministry of Agriculture and Rural Development (2015) and Bamidele *et al.* (2010) noted that rice is one of the food security crops grown in large quantities which constitute the main staple food items of the populace and can guarantee the nation's food security. FMARD (2014) puts the farming households involved in rice cultivation in Nigeria in 2013 at 22 per cent of the national farming population, which was an increase of 13 per cent over 2013. Expectedly, the estimated acreage cultivated increased from 2.2 million hectares to about 2.6 million hectares within same period. The average rice paddy obtained per household stands at 1.9 mt while national output was 5.9 million mt in 2013, representing 6.2 million mt in standard grain equivalent. In Niger State, estimated area cultivated for rice during the wet season in 2013 was 264,004 hectares with total output of 824,486 metric tonnes.

In-spite of these efforts, Gyimah-Brempong, Johnson and Takeshima (2016) affirmed that paddy yields in Nigeria are among the lowest in the African region and well below other developing countries in Asia and Latin America. The returns on investment have also been low, arising from the low output per hectare and price fluctuation. From the demand angle, the average Nigerian consumes 24.8 kg of rice per year, representing 9 per cent of annual caloric intake (International Rice Research Institute, 2001). Recently however, Food and Agriculture Organization (2016) puts the global per capita consumption of rice at 50kg per

annum. Meanwhile, the International Food Research Institute (2016) noted that rice has become one of the leading food staples in Nigeria, surpassing cassava in food expenditures. The organisation further posited that consumption had increased faster than production, resulting in a growing dependency on import and that by 2014; about half of the rice consumed in Nigeria was imported. Not unexpected, the structure of Nigeria's rice economy has been highly import dependent, with majority of Nigerians enmeshed in the burden of food insecurity, poverty, inequality and unemployment. Meanwhile, varying levels of outcomes have been noted across seasons, agro-ecological zones and even among actors and genders, while from the economic point of view, little is known in quantitative and value terms of the economic contributions of the rice industry to economy, though, without prejudice to the outcomes of the financial and economic analysis undertaken by the donor organisations on projects identified for support, which in most cases are restricted. Thus, given the low productivity, low returns on investment and dependence on import on one hand, government and market failures on the other hand, it has become imperative to undertake the financial and economic analysis of rice enterprise in Nigeria, with a view to ascertaining the benefits of rice to the farmer and society. Aside these, the practical application of the capital budgeting tools to financial and economic analysis, though, theoretically documented, have been associated with numerous practical difficulties in application by local and national planning officers, agricultural economists, undergraduate and graduate students and other relevant specialists involved in agricultural project preparation. This article provides the guidelines and easy to follow practical application of the capital budgeting tool of DCF to financial and economic analyses. Specifically, this article determined the financial and economic viability and sustainability of the proposed irrigated rice enterprise under Kawo Irrigation Site in Kotangora, Niger State. The study hypothesized that it is not worthwhile investing in irrigated rice enterprise in the site.

LITERATURE REVIEW

The conventional investment appraisal theory of the firm has been severally deployed for the analysis of intended project investments. Conventionally, investment appraisals have been premised on several theories, such as, stakeholders' theory, agency theory, stewardship theory and resource dependence theory (Kalyebara and Islam, 2014). While the stakeholder theory focused on the relationship between the organisation and its stakeholders, factoring in the need to maximise stakeholders profit motive, the agency theory narrows down to the contract between the organisations and managers. The stewardship theory on the other hand is premised on the non-economic motive or social consideration in investment undertakings, while the resource dependence theory hinges on the organisation's ability to control external resources. These theories naturally provide the requisite setting and justification for project investment appraisal premised on the duality of profit and social consideration. This background naturally provides the setting for the discussion of the various investment appraisal approaches.

Kalyebara and Islam (2014) posited that the two key decisions made by entrepreneurs are investment decisions (bordering on capital budgeting or investment appraisal) and financial decisions, which ascertains how the chosen investment should be funded (either by equity or debt or a combination of the two). Ross *et al*. (2011) affirmed the existence of various capital budgeting techniques amenable for investment appraisal. These according to the researchers include the discounted cash flow (DCF) and the non-discounted cash flow (NDCF) approaches. The DCF takes cognisance of the time value of money and associated financial and business risks. This approach comprises the net present value (NPV), internal rate of return (IRR) and the profitability index (PI). The NDCF on the other hand ignores the time value of money and hence, fails to factor in financial and business risks. These include the payback period (PBP) and accounting rate of return (ARR). For this article, focus is on the DCF, given its inherent benefits as earlier mentioned and the unique Nigeria setting (associated with high inflation and business risks) in which project investment is being analysed.

Seitz and Ellison (1999) posited that the dominant traditional investment appraisal method utilises the net present value (NPV) to measure the performance of capital projects. According to the source, NPV is determined by discounting future net cash flows using a risk-adjusted discount rate to arrive at the present value and then deducting the initial investment from the sum of the present values. Kalyebara and Islam (2014) equated capital budgeting with investment decision making and investment appraisal. In this realm, capital investment was defined as the decisions made to allocate capital resources most efficiently in long-term activities in the hope that aggregate further benefits exceed the initial investment so as to maximise owners' wealth. It was further noted that the cash flows are the key instrument for any business because other resources can be bought if the cash inflows exceed cash outflows. The article affirmed that investment projects can be evaluated to identify those that maximize the value of the enterprise by the use of net present value. A caveat was however raised that the use of NPV alone may not serve the interest of all, given that other stakeholders may be interested in other measures such as cost minimization. While some researchers have complemented the NPV with the agency cost reduction, which entailed consideration for mitigation of enterprise cost (Cui and Mak 2002; Florackis 2008; Jensen 1986); others such as Lau employed multiple approaches using accounting ratios for investment appraisal instead of the discounted measures of project worth, though without prejudice to the unique characteristics of the organisation in the e-commerce industry.

In a related development, Kalyebara and Islam (2014) defined the IRR as the rate of growth a project is expected to generate and hence, the higher the IRR, the more profitable the project. Some of the benefits of the IRR highlighted included, consideration for project risks and time value of money and the utilisation of cash flow. The weaknesses centre mainly on the net cash flow being re-invested at a rate of return equal to the IRR, duality of IRR when using an unconventional cash flow, thus leading to conflicting results and the non-separation between mutually exclusive projects of varying sizes.

METHODS OF RESEARCH

The study was undertaken in Kawo Irrigation Site in Kotangora Local Government Area of Niger State, south bank of the Kotangora River, in north central, Nigeria. Niger State is located between Latitudes 8^0 22' and 11^0 30'N and Longitudes 33^0 and 7^0 20'E. The State is bordered to the North by Zamfara State, West by Kebbi State, South by Kogi State, South West by Kwara State, North East by Kaduna State and South East by FCT. The State also shares an international border with Niger Republic at Babanna. Kawo is located in the sub-humid climate zone of the tropics, with an average annual rainfall of 1,200 mm. Temperature ranges between 22^oC and 38^oC. The soil types are of two types, namely the Ku soil and Ya soil. The former is associated with little erosion hazards, while the latter has the advantage of high water retention capacity. The State has an estimated population of 5,278,415 as at 2016 (Salaudeen, 2017). Majority (85%) of the populace are involved in farming. The key crops grown are rice, yam, sorghum, maize, millet, groundnut and cowpea. Kawo also supports dry season farming, covering crops like rice, vegetables and sugar cane.

A random selection of 40 farmers was undertaken within the irrigation site through the assistance of the lead farmer, given the absence of a farmer frame. Farmers selected were all involved in rice. The study utilised both primary and secondary data. Primary data solicited covered socio-economic variables and input output variables on farmers' farming operations. Relevant data were also sourced from the Niger State Bureau of Statistics, Department of Crop Production and Department of Agricultural Economics and Extension Technology of the Federal University of Technology, Minna, National Planning Commission, Nigeria Customs Service and the Nigeria Internal Revenue Service. Vital data and methodological approaches were also obtained from past and on-going donor projects' appraisal documents and practice of packages of on-going donor projects and programmes. International prices were obtained from FAO and Index mundi web sites.

The analytical framework for this article was the conventional investment appraisal theory of the firm, which is premised on the discounted measures of project worth in the

estimation of the characterizing production parameters in the analysed irrigation site. In this direction, the NPV and IRR were utilised to analyse the primary and secondary data utilised.

The main worksheets utilised included the price worksheet; the Input utilization per worksheet, the production pattern worksheet and the cash flow. The production pattern worksheet is linked with the input utilization and prices worksheets to develop and project the operating costs for 25 years. The subheads in these work sheets are the Investment costs, including fixed costs of buildings and equipments, tools, farm improvements, irrigation facilities, canals etc; overheads etc; and the operating costs, which comprises seeds, labour, fertilizers, etc. These form the building blocks for cash flow worksheet. The financial prices were converted to economic prices using best practices detailed by Gittinger (1984) and the Asian Development Bank (2017).

The computation of the financial and economic rates of returns for this article was predicated on the following assumptions:

1. Domestic prices were used to assess the values of inputs and outputs under financial analysis, while international prices were adjusted to obtain the economic costs;
2. The investment cost on irrigation infrastructure was based on irrigation investments on sites with similar features; that is, centralised irrigation based on gravity is assumed under this article;
3. The investment is expected to result in between 50 and 55 per cent increase in yield of rice, arising from adoption of improved technologies and agronomic practices;
4. It is assumed that beneficiaries will purchase and sell their inputs and outputs at prevailing market prices;
5. Beneficiaries investments will come from borrowed fund and donor intervention;
6. The market prices are not too different from economic prices due to the little disparity between official and parallel markets;
7. Cost of irrigation water was put at $US 41 during dry season and $US13 under supplementary irrigation;
8. The net present value (NPV) is computed at 12% interest rate. The financial and economic internal rates of returns (FIRR and EIRR) are estimated for 25 years, being the lifespan of the proposed irrigation investment.
9. Lending rates to participants is at the existing 9 per cent Central Bank of Nigeria rate under the Anchor Borrowers' Programme, while borrowed fund is repaid in equal instalments;
10. Analysis was undertaken at constant prices, given the need to obviate the effect of inflation;
11. Capital depreciation was not considered given that annual provisions were made for purchases and replacement of equipment; and
12. Analysis was based on one hectare rice production enterprise in line with previous appraisal undertaken in Nigeria.

Model Specification. The NPV was used to measure the performance of the Kawo Irrigation Site Investment in irrigated rice production. The NPV was determined by discounting future net cash flows using a risk-adjusted discount rate to arrive at the present value and then deducting the initial
investment from the sum of the present values. These were achieved through linked excel templates as earlier mentioned. A positive NPV signifies the profitability of the investment and hence that the investment should be undertaken. The operational model is detailed in equation 1.

$$NPV = \sum_{t=0}^{t} \frac{B_t - C_t}{(1+r)^t} \qquad (1)$$

Where: NPV = Net Present Value; B_t = Benefit accruing in Period t; C_t = Cost incurred in Period t; r = Discount rate or Interest rate.

For this article, both the financial and economic rates of returns were derived, as they related to the participating farmers and the society as a whole. This model was used given its

global application and simplicity. Researchers like Hendricks (1980); Anderson (1982) and Mukherjee (1988) affirmed the popularity of the IRR. The decision rule is that when the IRR is equal to or greater than the cost of capital after tax, the project is accepted; however, with respect to mutually exclusive projects, the project with the higher IRR is accepted (Kalyebara and Islam, 2014).

$$\text{IRR} = \frac{R_1}{(1+r)^1} + \frac{R_2}{(1+r)^2} + \frac{R_3}{(1+r)^3} + \frac{R_4}{(1+r)^4} + \ldots\ldots\ldots\ldots\ldots \frac{R_n}{(1+r)^n} \qquad (2)$$

Where: r = Discount rate or Interest rate; R_1, R_2, R_3, R_4 …..R_n = Net benefit for number of years; n = Number of years.

RESULTS AND DISCUSSION

Financial Analysis. The results of the financial analysis as detailed in table 1 show that the NPV and IRR under sole irrigation cropping in Kawo irrigation site would be ₦1, 413,839 and 36 per cent compared to the ₦1, 362,507 and 33 per cent estimated for supplementary irrigation under same site. These results imply that rice enterprise will be profitable under both scenarios if the opportunity cost of capital is than the IRR, else, it may be better to save the money with the bank. Further insight into the results reveal that sole irrigated rice enterprise will be more profitable, given the higher NPV and IRR. Numerous studies have established higher rice yields under irrigation compared to other farming scenarios (International Plant Nutrition Institute). The sensitivity analysis as detailed in table 2, revealed a marginal change in IRR from 35 per cent to 36 per cent, when the cost of irrigation water was increased and decreased by 10 per cent respectively. However, with 3 per cent variation in rice yields, IRR fluctuated between 38 per cent and 34 per cent with respect to yield increase and decrease respectively. The results under supplementary irrigation are as provided in the table 1.

Table 1 – Financial analysis results

Cropping Scenario	Total Investment Cost for 40 Hectare	Investment Cost per Hectare	Operational Cost per Hectare	Incremental Benefit per Hectare	Incremental Benefit for 40 hectares	NPV at 12%	EIRR
	(₦)	(₦)	(₦)	(₦)	(₦)	(₦)	(%)
Irrigated	700,000,000	17.500,000	86,124	392,483	15,699,320	1,413,839	36
Supplementary Irrigation	700,000,000	17.500,000	76,124	392,483	15,699,320	1,362,507	33

Source: Extracted from financial analysis cash flow.

Table 2 – Sensitivity analysis results (Financial)

Cropping Scenarios	Base Case	Change in cost of Irrigation water		Change in Crop productivity	
	Initial IRR	10%	-10%	5%	-5%
Irrigated	36	35	36	38	33
Supplementary Irrigation	33	33	33	35	32

Source: Extracted from financial analysis cash flow.

Economic Analysis. Table 3 detail the outcome of the economic analysis undertaken on the feasibility of irrigated rice enterprise in Kawo irrigation site. The results show positive NPVs under the two scenarios analysed, while IRRs of 36 per cent and 34 per cent were obtained under the sole irrigated and supplementary irrigation respectively. The results imply that the proposed irrigated rice enterprise will be viable in the site under both scenarios, in so far as the opportunity cost of capital is less than the IRR. As obtained under the financial analysis, rice enterprise was more profitable under the irrigated scenario. In terms of incremental benefits, estimated ₦16.96 million will accrue to the society as a whole, if this

investment is undertaken. As regards the results of the sensitivity analysis (Table 4), changes in the cost of irrigation water by 10 per cent witnessed no changes in IRR under the irrigated and supplementary irrigation. On the other hand, with 3 per cent variation in yield, IRR fluctuated between 32 per cent and 36 per cent for yield increase and decrease respectively.

Table 3 – Economic analysis results

Cropping Scenario	Estimated Investment Cost for 40 Hectare	Investment Cost per Hectare	Operational Cost per Hectare	Incremental Benefit per Hectare	Incremental Benefit for 40 hectares	NPV at 12%	EIRR
	(₦)	(₦)	(₦)	(₦)	(₦)	(₦)	(%)
Irrigated	700,000,000	17.500,000	120,856	424,106	16,964,160	1,538,696	36
Supplementary irrigation	700,000,000	17.500,000	110,856	424,106	16,964,160	1,488,181	34

Source: Extracted from economic analysis cash flow.

Table 4 – Sensitivity analysis results (Economic)

Cropping Scenario	Base Case	Change in price of Irrigation water		Change in Yield	
	Initial IRR	20%	-20%	5%	-5%
Irrigation	36	36	36	38	34
Supplementary Irrigation	34	34	34	36	32
Source: Extracted from economic analysis cash flow					

Arising from the aforementioned results, the null hypothesis of this study which indicates that rice enterprise is not viable in Kawo site is rejected in favour of the alternate hypothesis, given the positive NPVs and IRR values greater than the existing rates of borrowing.

CONCLUSION AND RECOMMENDATIONS

Arising from the outcome of the study, it is concluded that the proposed rice enterprise under irrigation is expected to be financially viable to the extent that it will increase the net financial benefits to participants in the site, while economically, project has the ability to generate incremental benefits and net positive externalities to the agricultural sector of Niger State, Nigeria. Thus, it is recommended that irrigated rice enterprise be undertaken in the site complemented with supplementary irrigation. This is without prejudice to the regular rain-fed rice cropping which had been the normal practice of targeted beneficiaries.

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FEATURES OF TRADE POLICY INSTRUMENTS' APPLICATION FOR ENSURING FOOD SECURITY IN RUSSIA

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ABSTRACT
The problem of providing the population with varied food supplies in a fair number and quality does not lose its topicality during several decades. In Russia there are contradictions between liability solution of a problem of food supply security and insufficiently effective application of trade policy tools, on the one hand, and also dynamic application of policy import substitution as basic mechanism for providing an internal market with the food supplies and existence of banning on application of limiting and discriminating measures as part of WTO, on the other hand. These contradictions have caused a problem of investigation: how the tools of trade policy used by Russia in aid of implementation food security are much effective? In the article the indispensability and possibility of creation effective system of trade policy tools in aid of providing food security of the Russian Federation by integration global, national and regional measures of regulation the food supplies market is proved.

KEY WORDS
Economic security, trade policy, tariff, regulation, WTO.

The level of providing with food stuffs is in direct dependence on condition of food security of the state which, in turn, is an integral part of national security. Improvement a condition of food security is a high-priority social and economic problem on which decision depends not only progress of the specific state, but also economic, social stability and a security of regions and all world as a whole. As of today providing food security becomes complicated owing to instability of the economic strained of political conditions in some regions, ecological and natural cataclysm, reductions of natural resources.

With a view of providing food security of the country, Russia long time imported production of agriculture. Until recently the fraction of the import food supplies exceeded 40 %, that almost twice above norm for providing a food security. By doing so Russia significantly has undermined the industrial potential of agrarian and industrial complex and has weakened the food independence.

Objective of the given research is the assessment of influence of tools of trade policy on providing food security of Russia.

Theoretical base of research works of scientists-economists on studying a problem of providing food security (Howse R., Josling T. have made, A.I.Altukhov, E.L.Aron, D.F.Vermel, etc.) [1-4].

At the same time not all aspects of the problem are studied full-scale, some questions do not find the unequivocal solution and require the profound research. Now there is no uniform definition of the term «a food security». Some authors reveal an indispensability of participation of Russia in the foreign trade colleges, (for example, in WTO) [5]. Others prove, that participation in WTO is rendered with negative influence on a condition of a food security of the country, as worldwide trading organization does not carry out of the obligations taken on that calls into question its efficiency [6]. As the interoperability between organizational structures of food system (managing subjects, controls) is realized by means of the economic mechanism which is carried out through price control, tariffs, customs rates the further development of a problem of efficiency of the commercial policy tools used by Russia with a view of providing food security is necessary.

The concept «food security» for the first time has appeared after grain crisis of 1970th years in connection with the food inequality which has arisen between industrialized countries and the countries of «the third world» owing to absolute overproduction of the food supplies in industrialized countries and thus of mass famine in the countries of «the third world». The term «food security» has been stated by the Food and agricultural organization of the United Nations Organization (UNO) at Worldwide conference on problems of the food supplies in 1974 in Rome as « supply at all times and all over the world appropriate basic food stuffs in volumes, sufficient for providing steady growth of consumption of the food supplies and regulation of fluctuations of manufacture and the prices » [7-9].

State regulation of foreign trade activities plays a major part in providing food security of each country. The policy of the state within the limits of commerce in the food supplies can or strengthen competitiveness of national agricultural branch, render necessary support to internal agricultural manufacturers and provide economic and physical availability of the qualitative food supplies, or turn the country into dependence on import food stuffs.

With objective of protection of the national market of agricultural production, the state applies tariff restrictions. Application of tariff restrictions is the lever of state regulation of the foreign trade activities, directed on protection of home market of the country by use of export and import duties [10].

The main element of tariff regulation is the customs tariff. Since joining the World Trade Organization in 2012, the Russian Federation had to reduce import duty rates for more than 700 items of goods, including agricultural products. Despite the agricultural potential of the Russian Federation, such constraining factors as low efficiency of agricultural technologies, high cost of national food, low competitiveness of domestic food products, weak state support, make agricultural imports profitable. That is why low tariff rates and high quotas on agricultural products, on the one hand, reduce food security due to the displacement of national producers and the destruction of the agricultural sector, and, on the other hand, increase the volume of economically accessible food on the Russian market.

From all of the above, it can be concluded that tariff regulation is an effective instrument of trade policy of each country. Nevertheless, the role of tariff regulation in developed countries has recently declined markedly due to international agreements to reduce tariffs in trade within the World Trade Organization. Moreover, on the one hand, the tariff regulation of the Russian agricultural market is limited by strict fulfillment of obligations under the World Trade Organization, and on the other hand, low tariff rates for food imports and high quotas on the domestic market of Russia are justified due to the insufficient level of development of agricultural branch of the country and weak state support. That is why it is necessary to use additional instruments of trade policy, such as non-tariff regulation.

So, according to the United Nations Conference on Trade and Development, the share of non-tariff measures in agricultural trade among countries with a high level of economic development is 20%, while the share of tariff restrictions is 9% [11, 12].

In accordance with the classification of the United Nations Economic Commission for Europe, there are three main groups of non-tariff measures of state regulation of foreign trade: measures of direct restriction (quoting, licensing, special measures); customs and administrative formalities (certification, sanitary and epidemiological control, veterinary supervision, and quarantine phytosanitary control); other non-tariff methods (currency control).

One of the most common measures of non-tariff regulation is subsidizing. To date, subsidies for soft loans, land reclamation projects, current infrastructure repairs, etc. are being applied in Russia. So, according to the Ministry of Agriculture of the Russian Federation, in 2017, 15.43 billion rubles were allocated for subsidizing short-term soft loans and 5.86 billion rubles for investment in soft loans [13]. Moreover, the agricultural sector is being supported in the regions of Russia. In our opinion, of all non-tariff instruments for regulating food trade, it is advisable to increase subsidies as the main measure of protection of the domestic food market.

To gradually solve the problem and ensure the food independence of the Russian Federation, the Government of Russia has taken a policy of import substitution.

In 2015, the Presidential Decree was adopted to amend the National Security Strategy of the Russian Federation until 2020, which describes the main directions and measures to ensure national food security [14,15]. The updated version of the National Security Strategy identifies the priority economic, environmental and agricultural measures necessary to strengthen the country's food security and ensure food independence.

Conclusion. Tariff regulation is an effective instrument of trade policy, but its actions are limited by Russia's obligations under the World Trade Organization. As the main measure of non-tariff regulation of trade it is advisable to increase subsidies to protect the domestic food market and attract new personnel and improve the infrastructure of the agro-industrial complex.

Summing up, we can say that in the Russian Federation since 2009, the policy of ensuring food security and independence of the country is actively pursued through the achievement of import substitution in the agricultural sector. To this end, the Government of the Russian Federation constantly develops programs and strategies and applies state regulation measures to develop the country's agro-industrial complex, increase its food potential and increase the competitiveness of the domestic industry.

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PROSPECTS FOR THE DEVELOPMENT OF SINO-RUSSIAN CROSS-BORDER COOPERATION IN TOURISM

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ABSTRACT
The article provides the analysis of cross-border tourism formation in the context of Sino-Russian cooperation. The causes of the tourist demand growth get determined, based on the analysis of tourist flows dynamics between Russia and China. The article uncovers preconditions for the development of cross-border tourism in Primorsky Krai, which include well-developed tourist infrastructure attractive for Chinese tourists and recreational resources, and the well-shaped regulatory framework, which reduces visa and border barriers. Based on a comprehensive study identified priority directions for the development of cross-border tourism in Primorky Territory.

KEY WORDS
Cross-border tourism, international cooperation, inbound tourism market, tourist flows, tourism objects

Subject of the article is determined by the problematic nature of cross-border tourism cooperation in itself, which requires the tourism and recreation areas to use the available resources and organizational capacity effectively and in accordance with the latest trends and market conditions.

The basic rationale for the research is to uncover the prospects for the enhancement of Sino-Russian tourism exchanges; to analyze the current initiatives in terms of their ability to raise the quality of tourist services and to attract new market segments; and to provide suggestions of how to further digest an upsurge of demand for cross-border tourism products.

Article's methodological framework is based upon the system-oriented analysis, comparison study, logical method, methods of analogy and simulation.

Cross-border tourism does get explored in certain works, including ones written and edited by Pisarevsky E.L., Zhilina L.S., Gataullina S.Y and Miheychik Y.S., Kropinova E.G. [1-4]. They to some degree define the conceptual framework, but they lack the required details which will be further described in this article.

First of all, cross-border tourism, being one of the popular areas of international cooperation, gives countries additional opportunities for the development of inbound regional tourism, for attracting investments in tourism field, for increasing the mutual tourist flows, for accessing many other benefits.

In order to promote cross-border tourism cooperation, each country takes a plethora of factors into consideration when choosing a partner. The peripheral position of Siberia and the Far East (in relation to the developed European centers) leads to the development of international relations with the Asia-Pacific region (table 1) [5-7].

Table 1 - Major tour itineraries

Projects	Regions
The great tea road	China, Mongolia, Russia
"East gate of Russia "Zabaikalsk-Manchuria" Tourist Park	Russia, China (Autonomous region of Inner Mongolia)
Eastern ring of Russia	The far East and the Baikal region, Mongolia, China, Japan, North Korea
The Altai transboundary	Russia, China, Mongolia, Kazakhstan

Today, the North-East Asian cross-border tourism market is both the fastest growing and the largest in the world. The People's Republic of China by itself has about 130 million outbound tourists annually [9].

Geographical location of our region contributes to the development of an inter-regional tourism hub for Russian Far East in Primorsky Territory – which is the starting point for shaping tourist destinations to the Asia-Russia-Europe and Russia-Asia-Russia international corridors.

Our territory has everything required to become a key point for setting up package tours for foreign tourists to Russian Far East and to other places in Russia. Favorable climate, unique cultural and natural sites, well-developed transport infrastructure (which includes the modern airport, a network of regional airlines, marines, railways, a bus service, border checkpoints), actively developing hotel chain – it all has the most positive effect on increasing the tourists inflow from the Northeast Asian countries. In addition, our neighbors are interested in European and Russian culture. Primorye and Vladivostok are the nearest European territories for the Chinese tourists.

Over the last few years, the inbound tourism has experienced a significant increase in our region (figure 1). The inbound tourism in Primorye is increasing by more than 9% every year and domestic tourism is growing by 11 - 17%.

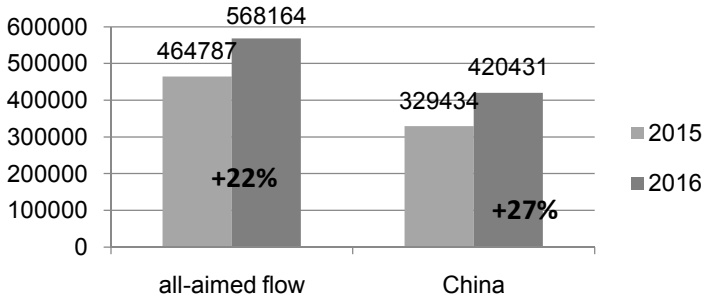

Figure 1 – Tourist flows of foreign citizens visiting Primorye, 2015-2016

Figure suggests that according to the data from Border Guard Department of FSS of Russia for Primorsky Territory, 568,000 foreigners visited our region in 2016 for all purposes of visit. The first place goes to China with 420,400 tourists (74% of the total number), an increase of 27% year-on-year. The trend for outbound tourism flow of Russian citizens to China is similar (figure 2).

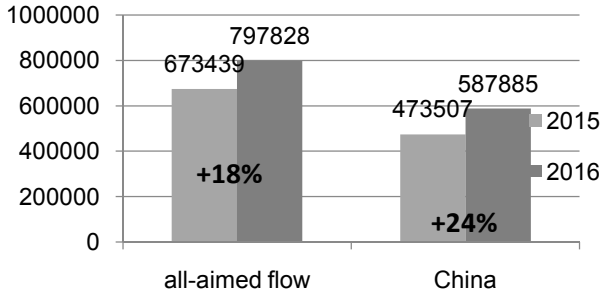

Figure 2 – Tourist flows of Russian citizens visiting China, 2015-2016

Figure shows, that the total number of Russian citizens visiting China in 2016 reached 587,000, which is an increase of 24% year-on-year. This data clearly indicates that there is an increase of mutual tourist exchanges between two countries. Most of the international tours take place between Primorsky Territory and its neighboring Chinese provinces, namely Heilongjiang and Jilin. Most of the tours happen under the frameworks of the Agreement

between the Government of Russian Federation and the Government of People's Republic of China on visa-free group trips.

In 2015 in the course of the cross-border tourism development, Primorsky region presented a tourist route called "Discover the Russian soul through the magic of the elements." It involves sightseeing of the tourist attractions located in the Far East region as well as in the Baikal region. These attractions are included in the "East ring of Russia" project [10]. Active promotion of the "Discover the Russian soul through the magic of the elements" tourist route allowed expanding the tours geography for Chinese tourists in Russia. Vladivostok acts as a starting point for trips from Beijing, Shanghai, Hong Kong, as well as for trips from the border towns of Chinese Jilin and Heilongjiang provinces to other Russian cities, such as Moscow, Saint Petersburg, Murmansk, Irkutsk, Novosibirsk, Chita, Ulan-Ude, Yuzhno-Sakhalinsk (Sakhalin Island).

The main reasons for the growth of inbound tourism flows are: attractive for the foreign consumers costs of tours and prices for goods in Russia; tourist attraction of newly created tourism objects, culture objects, objects of transport and tourism infrastructure; implementation of cooperation program between the regions of Russian Far East and the North-East of China; major events, which are held in the region; region's participation in prominent international tourism exhibitions and investment and trade fairs in China, such as the ones held in Harbin, Beijing, Kunming, Shanghai, as well as the participation in the tourism council of the Extended Tumangan initiative; Primorsky Territory Administration's campaign aimed at raising the awareness of the region as a tourist destination.

Today, the geographical location of Primorsky Territory forces its development as a Russia's Asian tourist hub - as the starting point for shaping tourist routes along the Asia-Russia-Europe and Russia-Asia-Russia international corridors. It meets the resources precondition, as well as the regulatory precondition for concentrating the tourist flows and allocating them further across the Russian territory.

23 foreign consulates are opened in Primorye at this point, there are also 24 border checkpoints which function internationally, among them 15 are seaports, 5 are automobile ports, 3 are railway stations, and 1 is an international airport.

Vladivostok as the capital of Primorsky Territory has established direct flights with different towns in Japan, Republic of Korea, Peoples's Repblic of China, Democratic People's Republic of Korea (Pyohgyang), Thailand and Vietnam. The number of both existing and estimated flights connecting Vladivostok and China is growing; there is also an increase in flights frequency. If in 2015 there were 16 flights a week from six Chinese cities, in 2016 we have had 22 flights a week from seven cities in China.

Tourist vessels to Japan and the Republic of Korea regularly call at Vladivostok seaport, also foreign vessels can call at the variety of ports, including Nakhodka, Vladivostok, Posyet, Zarubino, Slavyanka, port stations on Svetlaya and Olga Bays.

In July 2016, Zarubino (Khasansky district) sea port was included in the list of ports that allows visa-free entry into the territory of Russian Federation for foreign citizens and stateless people for as long as 72 hours, if they arrive on authorized ferries for the travel purposes. It will help establish the international ferry route between Sokcho (South Korea) - Zarubino (Russia), as well as to revive the cross-border route from Hunchun (China), which had been highly-demanded before it was shut in 2014.

By now, the cruise ships from South Korea called "Costa Victoria" and "Sun Princess" (with the total number of passengers varying from two to five thousands each) have been calling at Vladivostok port for many years. In 2017, the total number of corresponding vessel calls for this type of cruise ships increased from 6 to 12, making the total number of cruise visitors to Vladivostok as big as 36,000 people.

Implementation of the "Free port of Vladivostok" project (with its simplified visa regime for the trips not exceeding 8 days in total) is set to contribute a great deal to the development of our region into a transitional tourist center of the Russian Far East. The Freeport territory includes 15 districts of the region. A foreigner can cross the border at any of these border points and can continue his trip across the region or the whole country. This gives us an opportunity to form complex tourist products covering the whole Russian territory [11].

In 2016, the Tourist Information Center of Primorsky Territory has gained an opportunity to work under the frame of “China Friendly” program. It is a widespread project, which covers a whole range of companies working in the tourism field. Project participants voluntarily go through the certification procedure, which confirms that the quality of their services meets the standards requested by Chinese travelers. This project’s main goal is to increase the number of Chinese tourists visiting Russia by developing the quality of the provided services [12].

To increase the efficiency of the whole mechanism of Russia and China’s cooperation development in the tourism field, the participants should: enhance the organization of joint cross-border routes; cooperate in the field of youth tourism development, in this area such projects as international camping festivals or joint quests for youth groups may be considered; develop new cruise routes for Chinese tourists, which will allow ships to call at Vladivostok seaport on their way through the Sea of Japan; support tourists visiting annual mass events held in Vladivostok, such as "Mariinsky" International Far Eastern Festival, «V-Rox» music festival, International "Pacific Meridian” Film Festival of Asian-Pacific countries in Vladivostok, which presented 9 movies by Chinese directors in 2017 (documentary films, feature films, musical movies, one-reelers, multiple-reel films); actively develop and implement joint educational programs, which include peer learning and practical training for the staff working in the tourism industry; exchange in advance lists of significant events, holidays, which will give a better view on the ways of life, on customs of our nations, will strengthen good-neighborly relations.

CONCLUSION

Cross-border cooperation between Russia and China in the tourism field in many ways is conducted through the mutual tourism exchanges on the Far Eastern territory. Border regions, including Primorsky Krai (which are rich with tourism and recreation resources, which develop hotel infrastructure as well as transport infrastructure, which put together helpful in terms of reducing visa and border barriers regulatory framework) show the highest numbers for tourist arrivals. Further development of border and cross-border tourism depends on expanding the range of the products in offer for such types of tourism as cultural, ethnographic, recreational, ecological, health, event tourism; it also depends on raising the quality of tourist services, on attracting new market segments, developing the cross-border brand name for "East ring of Russia" project. Sure enough, resolving aforementioned issues will have positive impact on the development of cross-border routes between Russia and China.

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METHODS OF ESTIMATION OF HUMAN CAPITAL'S VALUE IN LABOR-INTENSIVE INDUSTRIES: A STUDY ON THE EXAMPLE OF THE PRIMORSKAYA AGRICULTURAL TRADE COMPANY, RUSSIA

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ABSTRACT
Estimation of human capital's value now is one of the most popular and widely discussed directions of research in Russian science at any level. This direction has great theoretical and practical significance. Both scientists and practical specialists are interested in the quantitative and qualitative characteristics of human capital in order to effectively use labor resources in economic activity. The main scientific and practical problem of the article is the absence of an exclusive method for estimating the value of human capital in enterprises and the weak approbation of these methods in practice. The purpose of the article is to review the existing methods for estimating the human capital's value in labor-intensive industries and to test some methods on the example of one of the Far Eastern enterprises – the Primorskaya Agricultural Trade Company, Ltd, located in Vladivostok, Russia. The methodological basis of the study is the theses of the modern theory of production and costs, the concept of human capital, as well as the traditional financial analysis of economic activities of enterprises. The authors justify the urgency of estimating the human capital's value of enterprises, choose the most acceptable methods for calculating the human capital's value, and test their choice on the example of the Primorskaya Agricultural Trade Co., Ltd. Among the selected methods for practical calculation is the cost method, the income method by V. Allaverdyan and income method by G.N. Tuguskina. After the calculations, the authors conclude that the income method gives the greatest value of human capital's value of the enterprise, because it includes a significant internal (professional and educational) potential of workers.

KEY WORDS
Human capital, enterprise, labor-intensive industries, cost method, income method, labor potential, human resources.

The importance of research of issues related to evaluation of human capital is due to significant role that labor resources and human capital play in modern economic life and economic development. In modern economic theory human capital is considered as a stock of knowledge, skills and abilities that every person has and can use in production process and consumer purposes [1]. The most important trend in development of modern world economy is the steady growth of investment to preservation and reproduction of human capital. Since the 1960s, the positive dynamics of investment in education, healthcare, capitalization of knowledge and skills has become the basis for sustainable development of post-industrial economies in developed countries.

Following data show the significant changes in structure of the world productive forces: in the XVIII century, the share of human capital was estimated at 10% in the total volume of aggregate capital; at the beginning of the XX century – already 33%, in the second half of the XX century it became more than the share of physical capital, increased by the end of the XX century to 67-69% (in the USA up to 74-76%) and increased to 80% at the beginning of the XXI century [2].

Development of the concept of human capital both abroad and in Russia has generated a large number of scientific researches in the field of assessing its value at different levels – in the national economy, in region and, naturally, in enterprises and organizations. In modern science, special attention is paid to practical aspects of assessing the value of human capital, and this fact determines the importance and relevance of this study. Estimation of the value of human capital, reflected in specific indicators, helps to see what the role of various assets in the formation of wealth in modern business entities, how significant investments to the human capital of modern organizations, and what factors determine their growth or decline [3; 4].

The modern concept is considered the human capital precisely as a capital, so it can be counted both in indicators of accumulation, and in indicators of result. The main types of assessment of investment in human capital are costs of education, production training, health protection, improving quality of life, migration, search for information on the labor market, reproduction of the population through fertility and others. In a wide sense, the implementation of all these types of costs contributes to increase the value of human capital, to improve a number of parameters [5; 6]. In a narrow, practical sense, investment to human capital includes, as a rule, the costs of education and training; because these costs mean deliberate process of building the knowledge and skills that are needed to produce a product in a particular field of activity or at specific enterprise. The most of scientific works devoted to evaluation of human capital in enterprise use this narrower interpretation.

Contrary to the existing opinion about fundamental immeasurability of human capital, many modern economists suggest methods to estimate the quantity of human capital in enterprise (or value of human capital). Prof. R. Kapelyushnikov identifies three main approaches (sets of methods) for evaluation of human capital [1]: indicator method, based on various natural characteristics of human capital;cost method, based on the accounting of costs associated with formation, accumulation and development of human capital; income method, based on calculation of incomes received from human capital's use.

RESULTS AND DISCUSSION

Unlike the scientists investigating the scientific and theoretical approach to the problem, enterprises and organizations wish to have a simple clear methodology for estimating the value of human capital, the parameters which can assess the available potential of labor resources, the effectiveness of their use, etc. The purpose of assessing the value of human capital in any enterprise is to optimize the use of labor resources as one of the most important tasks in management accounting, and at the same time create reserves and receive dividends from highly efficient use of labor resources. The concept of «labor resources» in the micro level of studying human capital is synonymous to definition of «human capital» [7; 8]. The tasks of estimation of human capital's value in enterprise include:

- Calculation of indicators that characterize the size, structure of labor resource, its professional and qualification parameters, its movement, labor productivity, reserve to increase the efficiency of its use;
- Calculation of human capital's cost by using the cost method. Costs of human capital include not just wages, but all expenses that are met the enterprise in developing the labor resource, for example: payment of tuition at universities and training of employees, payment of housing (hostels) for needful workers who do not have own housing, implementation of social programs to help children of employees (paying kindergartens for single mothers and large families), as well as other similar types of expenses. Accounting of these costs in the total amount of expenditures on human capital is a fundamental difference between the calculating the effectiveness of human capital's use and the traditional indicators of labor efficiency (labor productivity and labor intensity), which are usually used in the comprehensive analysis of economic activities [9; 10];
- Calculation of human capital's cost by using the income method. There are many methods of estimating the value of human capital by income, but, unfortunately, there is no uniform method accepted by all specialists. Among the simplest and most convenient for

practice methods we choose the method offered by Russian scientists – V. Allaverdyan and G.N. Tuguskina [10; 11]. These methods are used to assess the human capital's value of an individual employee; however, we think that the methods can be used for evaluation of human resources value of enterprise as a whole. These methods are fairly simple to use, but they give different results, because they are based on various criteria for estimating the value of human capital, namely, different methods in calculation of the goodwill of human resources potential.

According the method of V. Allaverdyan, the human capital's value is calculated as follows:

$$S_1 = W \cdot G_{hp}, \qquad (1)$$

Where: S_1 is the estimated value of human capital by the method of V. Allaverdyan, W is the aggregate salary fund of employees, G_{hp} is the goodwill of human resources potential. Goodwill of human resources potentials calculated as 1 + the share of enterprise in the branch's market, because according to the theory of human capital, image and trust to the company are created by its employees.

According the method of G.N. Tuguskina, the value of human capital is:

$$S_2 = W \cdot G_{hp} + I \cdot t, \qquad (2)$$

Where: S_2 is the estimated value of human capital by the method of G. Tuguskina, W is the aggregate salary fund of employees, G_{hp} is the goodwill of human resources' potential, I is the amount of investment costs for human capital, *t* is the period of time of investment. The amount of investment in this case will correspond to the amount of investments made in human capital without taking into account wages.

The goodwill of human resources potential in this case is an integral coefficient consisting of three terms:

$$G_{hp} = R_{hc} + I_{hc} + K_{prof.pers} \qquad (3)$$

Where: R_{hc} is the index of profitability (rentability) of human capital, calculated as the ratio of profit to wages, I_{hc} is the index of human capital's cost, equal to the share of wage fund in the total amount of expenditure, $K_{prof.pers.}$ is the coefficient of professional perspectiveness of personnel in enterprise.

To calculate the coefficient of professional perspectiveness G.N. Tuguskina suggests using the formula recommended by the Russian Labor Research Institute [11]:

$$K_{prof.pers.} = E \cdot (1 + Exp/4 + Age/18) \qquad (4)$$

Where: E is assessment of education level, equal to 0,15 for those employees who have incomplete secondary education; 0,60 – for employees with secondary education; 0,75 – for persons with secondary technical and incomplete higher education; 1,00 – for persons with higher education in the specialty; Exp is the average period of work as the company's employee, Age is the average age of workers in the enterprise.

How applicable are the methods in the actual practice of enterprises? How different are the results of calculating the value of human capital by cost methods and income methods? The authors have tested these methods on the example of one of the Far Eastern foreign trade joint Russian-Chinese enterprises engaged in processing and supplying agricultural products to the Russian market – Primorskaya Agricultural Trade Co., Ltd. The basic data on the personnel potential of this company are presented in table 1.

Table 1 shows that the Primorskaya Agricultural Trade Co., Ltd on the whole, maintains its average number of employees from year to year: by the list number it has decreased only by 5 persons (for 01.01.2017), and by the average number that takes into account the movement of personnel within the calendar year, increased by 7 people, or by 2,7%. This indirectly confirms the relatively positive trends in development of the enterprise itself.

Table 1– Basic quantitative indicators of human capital in Primorskaya Agricultural Trade Co., Ltd, persons

Indicators	2016	2015	2014	2016 to 2014
Listed number of employees	276	290	281	-5
Actual number of employees(for 01.01 of each year)	245	262	242	+3
Average annual number of employees	281	276	274	+7

The human capital of enterprise is the actual and potential reserves of labor that the enterprise has at this stage of development. The evaluation of human capital is carried out from the simplest and most well-known indicators that characterize the labor potential of an enterprise, to the unique, complex integral indicators characterizing human capital as such.

Composition, structure, movement and efficiency of human capital, investigated in the framework of the indicator method, are analyzed by traditional methods accepted by modern financial science and practice [12]. Therefore, in this article, we will focus our attention on the newest methods of assessing the value of human capital, namely, accounting the costs and incomes [10; 11].

1. Evaluation of human capital's value by means of the cost method. Based on the data of the Primorskaya Agricultural Trade Co., Ltd, taken from the annual report about the company's financial results for 2014-2016, we calculate the expenses for human capital of this enterprise (table 2).

Table 2 – Costs and efficiency of human capital in Primorskaya Agricultural Trade Co., Ltd, Thousand rubles

Line	Indicators	Calculation Procedure	2014	2015	2016
1	Net Revenues from sales	-	818 173	924 089	1 000 396
2	Total net cost of production, including:	-	759 116	836 991	946 165
2.1	- wage fund, thousand rubles	-	78 275	77 427	80 325
2.2	- cost for employees' professional training	-	88	135	94
2.3	- expenses for reimbursement of cost for employees' training in institutions of higher education	-	532	715	806
2.4	- payment of housing in dormitories for workers who do not have permanent housing in Vladivostok	-	1 152	1 008	1 008
2.5	- other costs associated with the social security of employees and satisfaction of their social needs	-	235	412	306
3	Total costs for human capital	Lines 2.1 + 2.2 + 2.3 + 2.4 + 2.5	80 283	79 697	82 539
4	The added value (profit from sales)	-	59 057	87 098	54 231
5	Profit before taxation	-	27 711	27 210	22 250
6	Effectiveness of human capital's use, rubles	lines 1 / 3	10,19	11,60	12,12
7	Effectiveness of human capital's use, rubles	lines 2 / 3	9,46	10,50	11,46
8	Effectiveness of human capital's use by value added	lines 4 / 3	0,74	1,09	0,66
9	Profitability of human capital	lines 5 / 3	34,5%	34,1%	27,0%
10	The capital intensity of production (in terms of human capital)	lines 3 / 1	9,8%	8,6%	8,3%
11	The share of costs for human capital in the overall cost structure	lines 3 / 2	10,6%	9,5%	8,7%

As you can from the table 2, the total cost for human capital in the Primorskaya Agricultural Trade Co., Ltd in 2016 amounted to 82.5 million rubles, which is 2.7% more than just the wage fund, which is used in traditional analysis of efficiency of using labor resources. The cost of human capital is always more than just wages, because it includes the «human», social component that allows forming and developing the professional experience, knowledge and skills of workers (individual human capital). Then these skills and experience are used by the enterprise in production of goods and services, and thereby the human capital of the enterprise is formed and expanded. According to the cost method, 82539 thousand rubles is a value of human capital of the Primorskaya Agricultural Trade Co., Ltd in 2016.

The indicator of effectiveness of human capital's use shows that one ruble of expenditures on human capital brings the enterprise 12,12 rubles proceeds. Over the period 2014-2016, the effectiveness of human capital's use increased by 1,93 rubles, or 19%. We

can say that 19% of total increase of the company's income is due to development and increase of the efficiency of human capital's use. Also we can say that one ruble spent on human capital brings the company 11,46 rubles of the value produced, or 0,66 rubles value added. In other words, 21% of the total increase in the company's value is due to development and increase of the efficiency of human capital's use.

The human capital intensity in the company's production is the indicator that is reverse of the effectiveness of human capital's use. In Primorskaya Agricultural Trade Co., Ltd this indicator decreased from 9,8% in 2014 to 8,3% in 2016. From the point of view of the current development, this indicates an increase in the efficiency of human capital's use, however, from the point of view of strategic development, a systematic reduction of human capital's cost in the total costs of the enterprise indicates a potential reduction in the efficiency of work with personnel, a drop in labor productivity. In future, this may lead to decrease in employee loyalty to the enterprise, to reduction in motivation for increasing labor productivity, to increase in staff turnover, etc. This all could adversely affect the financial position of the enterprise.

The experience of foreign countries shows that only systematic increase of investments in human capital allows to increase competitiveness and improve financial indicators of economic activity. The long-term, or delayed effect of investing in human capital is another fundamental difference between the category of «human capital» and the traditional concept of «labor resources» [13]. Under any unfavorable conditions, Russian enterprises are trying to immediately cut staff costs by cutting staff and saving the money from wages. Foreign large companies, on the contrary, increase investments in human capital by means of qualitative changes in its structure, professional level, etc. Thus they increase the resource base for improving competitiveness under the most difficult market conditions [14].

2. Evaluation of human capital's value by means of the income method of V. Allaverdian. The share of Primorskaya Agricultural Trade Co., Ltd on the market is estimated at 10%. According to the formula (1), value of the enterprise's human capital is:

$$S1 = 80325 \cdot (1 + 0{,}1) = 88357 \text{ thousand rubles} \quad (5)$$

3. Evaluation of human capital's value by means of the income method of G.N. Tuguskina. We use formulas (2), (3) and (4) to calculate the final value of human capital, the goodwill of human resource potential and the coefficient of professional perspectiveness.

We can calculate the level of education for Primorskaya Agricultural Trade Co., Ltd:

$$E = (0{,}6 \cdot 4{,}2\% + 0{,}75 \cdot 44{,}6\% + 1 \cdot 51{,}2\%) / 100\% = 0{,}87 \quad (6)$$

The average length of working in Primorskaya Agricultural Trade Co., Ltd is 10,5 years, the average age of employees is 41,2 years. By means of the formula (4) we calculate $K_{prof.pers.}$:

$$K_{prof.pers.} = 0{,}87 \cdot (1 + 10{,}5 / 4 + 41{,}2 / 18) = 5{,}14 \quad (7)$$

Then we calculate the goodwill of human resources for the Primorskaya Agricultural Trade Co., Ltd:

$$G_{kp} = 0{,}28 + 0{,}085 + 5{,}14 = 5{,}505 \quad (8)$$

Thus, the value of human capital for the Primorskaya Agricultural Trade Co., Ltd according to the income method of G.N. Tuguskina is equal to:

$$S2 = 80325 \cdot 5{,}505 + 6492 = 448681 \text{ thousand rubles} \quad (9)$$

CONCLUSION

If we combine the results of all calculations of human capital's value of Primorskaya Agricultural Trading Co., Ltd in table 3, we can compare the results.

Table 3 – Estimation of human capital's value of the Primorskaya Agricultural Trade Co., Ltd, by means of different methods

Method	Evaluation Result	Method's Specificity
Cost method	85 539	The total wage fund and all current expenditures on human capital are taken into account
Income method of V. Allaverdyan	88 357	The main criterion of value is the wage fund and goodwill of human resources potential as a market (external) component of the enterprise's activity
Income method of G.N. Tuguskina	448 681	The main criterion of cost is the FOT and goodwill of human resources as an internal component of the enterprise

As you can see from table 3, the most significant is the value calculated by the income method of G.N. Tuguskina. This fact tells that the internal potential of the enterprise, based on human capital, is much greater than the external potential, based on current market factors.

The methods used in the process of estimation of human capital's value and listed in table 3 do not exhaust the list of methods for characterizing human capital in any enterprises. However, other methods require deeper data and certain software to process them. Despite the lack of a unified approach to assessing the value of human capital, an enterprise can reasonably choose any of the methods available to date for an objective assessment of the development potential that human capital provides.

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SUPPLY CHAIN MANAGEMENT OF IMPORTED FROZEN BEEF: AN ALTERNATIVE TO INTEGRATE WITH LOCAL BEEF SUPPLY CHAIN MANAGEMENT

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ABSTRACT
The purpose of this study is to describe the supply chain management of imported frozen beef from Australia to Indonesia; to analyze where the strengths, weaknesses, opportunities, and threats for the frozen meat distributor, and what strategy should be chosen; and to analyze alternatives of cooperation between imported frozen beef distribution with local beef distribution chain. The research approach is qualitative, and the research strategy is a case study. This research was conducted in Jakarta, data collecting technique by interview method and literature study. Data analysis techniques use supply chain management (SCM) and strengths, weaknesses, opportunities, and threats (SWOT) analysis. The results show that the distribution chain management of imported frozen beef needs to tripartite cooperation with government and local beef distributors to conduct joint marketing of imported frozen beef and cooler procurement to the point of retailers in traditional markets; expanding the market share of imported frozen beef to industrial segments (hotels, restaurant, catering company; and meat processing factories); and cooperate with imported beef suppliers to overcome the problem of taste flavor and lack of weight of imported frozen meat, and clarify halal certification.

KEY WORDS
Imported frozen beef distributor, local beef distributor, supply chain management, SWOT analysis.

Beef price in Indonesia especially started from 20015 is known expensive. In 2010-2011 local beef price ranges between Rp 45.000 (US$ 3.32) - Rp 55.000 (US$ 4.06) per kilogram. At that time World Bank has proposed that beef price in Indonesia is relatively expensive. World Bank compares beef price in Indonesia per December 2012 on average reaches up to US$ 9.76, while in Malaysia it is only up to US$ 4.3, and US$ 4.2 in Thailand (Permana, 2013). In 2016, beef price in Indonesia reaches up to Rp 120.000- Rp 130.000 per kilogram, which means beef price increase is more than 100% only in four years. Beef price since 2015 is almost never decreased until 2017.

The reason why beef price in Indonesia is too expensive is that demand and supply imbalance. There is a demand and supply imbalance of beef and buffalo meat. The average growth of beef and buffalo meat demand during 2015-2019 is 6.71 percent. This growth of demand is caused by population growth, living cost index, Gross National Product (GNP) per capita, and society's purchasing power as well. The problem is that the growth demand for beef and buffalo meat is not balanced with the average supply for the same period (2015-2019) that is only 3.08 percent. That is why almost every year Indonesia experiences a deficit in determining the needs of beef and buffalo meat which is in 2019 projected deficit of 143.63 million tons (National Development Planning Body or Bappenas, 2013).

In terms of fulfilling beef supply, the production capacity of local beef, according to the Indonesian Animal Protein Business Association (APPHI) per 2014, is just contributing around 67% from the total of national beef needs. The needs of beef surely fluctuate, but it tends to increase in the last five years. In order to need the lack of beef (27%), Indonesia meets it through import quota, especially from Australia and New Zealand.

So far Indonesian government assumes that Supply Chain Management (SCM) of local beef in Indonesia is not efficient so that beef price will be expensive. In Indonesia, there are three supply chains of local beef, namely: supply chain of cattle and local beef, the supply chain of cattle and imported beef, and supply chain of imported frozen beef. One of the government ways to overcome an alternative of beef supply and also expected can push beef price is increasing the number of imported frozen beef supply. Imported frozen beef is expected able to give an alternative to the society so is able to choose the product of beef in accordance with the taste and the purchasing power. Imported frozen beef is made as a tool to press beef price because it is only Rp 80.000 per kilogram or only 61.5% to 67% from the local beef price.

Government policy to intervene beef market with imported frozen beef massively begunn in 2015-2016 is actually not successful to decrease local beef price. Local beef price is stable at IDR 120,000 - IDR 130,000 per kilogram, even in a local area it reaches up to IDR 135,000 per kilogram. Why is imported frozen beef price not successful to press local beef price? There are many answers to that question. If seen from supply chain management of imported beef, it is obvious that imported frozen beef cannot get maximally into the traditional market that along this time becomes the end of the point of local beef sells for public consumer or individual consumer.

Having been seen from supply chain management, imported frozen beef is largest ordered from Australia, New Zealand, and other countries. The frozen beef importer is 62 beef importer companies that are parties to Indonesian Meat Importers Association (Aspidi). That imported frozen beef is divided into two classes. Prime cut imported frozen beef is distributed to the star rated hotel and supermarket. Supermarket sells fresh meat to the restaurant/catering company and sells the processed products to the consumer. Second class meat sold to the industry of meat processing belonging to the organization of National Meat Processor Association (NAMPA) results in sausage, smoked beef, burger, and etc. These processed products are then sold in a supermarket. In particular for imported frozen beef, until 2015 government policy prohibits the distribution chain from entering traditional markets to not compete and deal with local beef (Bappenas, 2013).

Interestingly, given the supply chain of imported frozen beef that is different from the supply chain of local beef or imported dairy chains, there are difficulties for the entrepreneurs and distributors of imported frozen beef to make frozen beef as an alternative to local beef. In the market, the imported frozen beef distribution system cannot collaborate with the local beef SCM. In the markets, fresh beef SCM does not absorb or adopt frozen beef.

The impact of no collaboration between imported frozen beef supply chain and fresh beef supply chains is that the imported frozen beef distributors must make their own SCM, starting from importing the frozen beef (in this case is from Australia), but especially when distributing it until the end user. As a result, SCM dualism in marketing between fresh beef and frozen beef distribution channels happens not only in the upstream but also downstream to the final distribution point that meets the final consumer.

There is a plain difference between imported frozen beef and fresh beef marketing. The distribution of imported frozen beef creates its own path in the final market. In a number of ends markets found box truck selling imported frozen beef. Moreover, the distribution chain of state-owned enterprises uses various government channels, including the police sector. Those police sectors are involved not in terms of security, but in case of distribution, i.e. being used as an outlet distribution of imported frozen beef.

Supply chain separation of imported frozen beef and local beef, as it has been done in Lebaran (annual tradition of Idul Fitri) 2016 proved to make the supply chain of imported frozen beef less to end-user in traditional markets. The implication is that most people still buy local beef even the price is expensive. The government's intention to make imported frozen beef whose price is relative cheap to be an alternative for society in selecting meat specifications at their respective prices is ineffective. The issue of high beef prices remains unresolved.

According to the background of the problem, it can be seen that the obstacle of the achievement of cheap beef price is not in the absence of cheap beef supply (imported frozen

beef), but because of imported beef supply chain problems not reaching end-user effectively, which is different from local beef supply chain that more effective hits the end-users. For that matter, it is interesting to examine how the supply chain management of imported frozen beef can effectively reach the end-user. One of the SCM strategies to get effectively to the end user is by working with local beef SCM. Supply chain cooperation can be implemented primarily at the last distribution point, i.e. in traditional markets. This study focuses on the issue of how distribution chain management organized by imported frozen beef distributors allows collaborating with the local beef distribution chain so that the imported frozen beef distribution chain can be effective to the end user.

LITERATURE REVIEW

Effective Distribution. Effective distribution starts with an effective supply chain. The value chain stages, according to Chopra and Meindl (Sreenivas & Srinivas, 2008) value chains consist of all stages that are directly or indirectly involved in meeting customer demands, consisting of five stages of the value chain: (i) components/raw materials, (ii) producers, (iii) wholesalers and distributors, (iv) retailers, (v) customers. Meanwhile, Keskinock and Tayur (in Sreenivas & Srinivas, 2008) argue that the main goal of supply chain management is to deliver the right product in the right time while keeping cost-efficient in an efficient manner. They identify three components of supply chain management, namely procurement, manufacture and distribution, and disposable inventory items. Lummus and Vokurka (1999) develop a supply chain understanding compiled from many authors. They claim that the supply chain consists of all activities involved in delivering products and raw materials to customers, including distribution channels, delivery of goods to customers, and information systems needed to monitor all of these activities.

In the distribution network planning, there is an established relationship between the number of distribution points, transportation costs, and customer service targets. In a graphical sense, the point of those three items are will be an optimal balance of facilities and transportation costs for building with low cost and distribution networks. Typically distribution networks tend to be centralized, so they can take advantage of internal support structures such as facility management, entry order, consumer utilities, and data processing. Depending on the level of centralization, it can generally save 50% or more of the distribution cost, compared to costs if the distribution is decentralized. Of course, service levels, limitations on available facility size, risk mitigation during peak loads, that all should be accounted as a factor in the decision matrix (Sreenivas & Srinivas, 2008).

Six Stage of Value Chain. The purpose of the value chain analysis (VCA) is to improve supply chain performance. Therefore the requirements to be met are the understanding of the product flows, information flow (information flowes), as well as management and control in the value chain. In this context, VCA is a diagnostic tool used to assist management decisions and produce recommendations for improved value chain. Previous studies have added and perfected the early stages of VCA, i.e. the step of 1, 3, and 4 in Figure 1, by adding consumer research to reflect a focus on consumer needs and wants. The VCA approach has been expanded and developed to deal with varied situations. In the agribusiness value chain, VCA has been developed into six stages (Howieson et al. 2016) (see Figure 1).

Engaging the chain. The first and fundamental stage of engagement into chains will determine how chain member interacts as a whole through the VCA process. This first stage is supported by the six researchers as shown in Table 1. The six researchers highlight the importance of gaining commitment regarding all processes of all chain members, including senior management to ensure success. In general, many chain members have never had previous cooperation, then team building is considered important for VCA success. If previously members of the chain have worked together, then this is a good indicator of the success of the next period value chain. VCA project is an effective way to begin the process of translating the partnership concept of desire into reality, even before there has been hostility between them (Howieson et al., 2016).

Figure 1 – Six VCA Stages Broaden
Source: Howieson et al. (2016)

Those six stages of VCA developed are the result of the synthesis of six researchers, as presented in Table 1.

Table 1 – VCA Synthesis of Six Researchers

Stage	Taylor (2005)	Francis et al. (2008)	Fearne (2009)	Bonney et al. (2009)	Soosay et al. (2012)	Howieson et al. (2016)
1.Engage the chain	✓	✓	✓	✓	✓	✓
2.Understanding the market	X	X	✓	✓	✓	✓
3.Mapping the flows	✓	✓	✓	✓	✓	✓
4. Identify opportunities and challenges	✓	✓	✓	✓	✓	✓
5. Implementation	X	X	X	✓	X	✓
6. Evaluation	X	X	X	X	X	✓

Source: Howieson et al. (2016).

Understanding the market. The importance of end users is recognized in the VCA process in the second phase of the VCA, which understands the market. Studies have shifted from being more focused on production into the direction to understand consumer utility as central in the value chain process. To create a value in a chain, it is necessary for the industry to understand what consumer values are in a product or service so that the industry adjusts its business to those consumer values. Although consumer values were known more than 25 years ago, they were recently adopted by the industry of agri-food (Bonney et al., 2009; Fearne, 2009; Griffiths et al., 2000; Zokaei and Hines, 2007; Lummus and Vokurka, 1999; Stevens, 1989; Cooper and Ellram, 1993).

Mapping the flows. The mapping of the value chain is one of the fundamental components of the VCA. This mapping allows identification that includes three elements, namely: (i) the flow of products (ut2), (ii) information, and (iii) relationships. The data required as a material for mapping the flow of supply can be obtained by interviewing supply chain

members from the point of production to the point of sale. The mapping data is related to the information on planning, estimating/predicting, ordering, production, distribution, marketing, and services for customers. This data informs the flow of products and information on the chain, and further data are needed to inform flow relationships, including stakeholder meetings and workshops. The flow of products requires the physical flow of beef through the value chain. It aims to coordinate the correct delivery volume and qualification of beef according to the order of the consumers. Data mismatch in the agri-foods chain between supply and demand causes excessive supply or vice versa on the chain. Those two situations drain unnecessary costs on firms and limit the chains to create value. The information flow is a two-way process in the value chain. The information of end consumers (i,e. preference, specification and quality demand) can be transferred back along the chain to the producer, which then the producer can tell the market about the issue the market needs to know. In practice, this transfer of knowledge allows the company to become more competitive. The flow of relationship describes how members of the chain relate to each other. This relationship offers the possibility of all parties, through coordination and joint optimization through values sharing and works for identifying further opportunities (Howieson et al., 2016).

Identification of Opportunities and Challenges. The identification of opportunities and challenges proved to be the highlight of the VCA process. After going through 1-3 chain processes, the company can inventory a number of strategies related to their respective opportunities and challenges. The group of entrepreneurs belonging to the chain must choose one strategy implemented by the entrepreneurs from those strategies (Howieson et al., 2016).

Implementation. The four stages above are data collection, identification of opportunities and challenges, and other things that are conceptual. That all have to implemented consistently and in discipline way by all members of supply chain (Howieson et al., 2016)

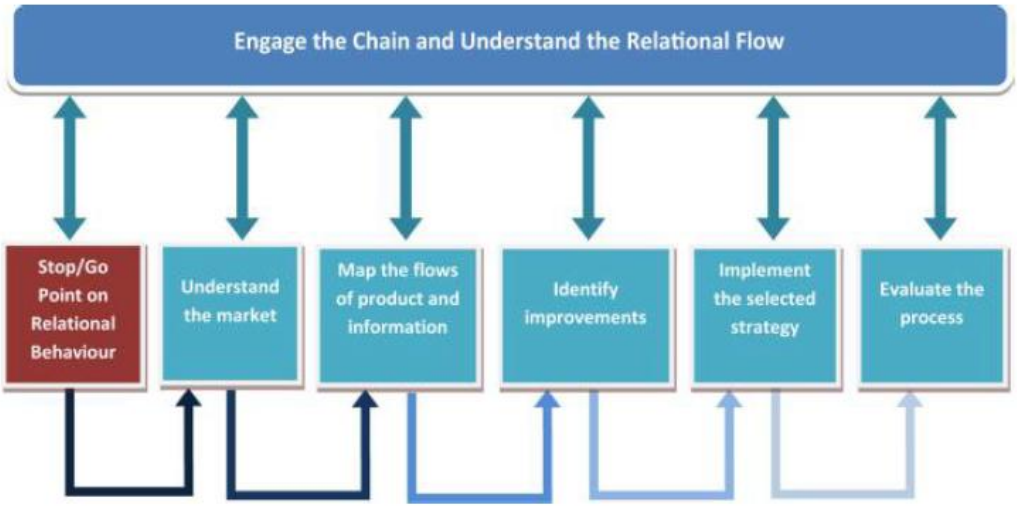

Figure 2 – Analysis Approach Modification of Value Chain
Source: Howieson et al. (2016).

Evaluation. The last step of VCA process is evaluating strategy performance of value chain chosen. This evaluation uses a number of methods. The result of the evaluation is various, started from the need of sale improvement after using the strategy chosen, or sales improvement is not improved yet but there has been awareness between the actors of the value chain. The result of evaluation also reveals not-good-yet result so needs a research why it fails and how the solution. This evaluation also concerns the level of results acceptance by each value chain actor who may have different perceptions of the result (Howieson et al., 2016).

SWOT Analysis. SWOT which is one of the few strategic planning tools used by businesses and other organizations to ensure that there are clear objectives defined for the project or business, and that all factors related to such efforts, whether positive or negative, are identified to accomplish the task, the process involves four areas of consideration: strengths, weaknesses, opportunities, and threats. It should be noted that, when identifying and classifying relevant factors, the focus is not only on internal issues but also on external components that may affect project success (Osita et al., {Ut2} 2014).

According to Rangkuti (2013), the method of data analysis using SWOT analysis has following stages:

1. The SWOT questionnaire filling stage consists of two parts, namely the section to assess the current state of the four elements (strengths, weaknesses, opportunities, and threats); and the second is a section to assess the degree of urgency handling.
2. Creating an Internal Factor Evaluation (IFE) matrix to analyze internal environmental factors. Through the IFE, matrix we will get the weighted value for each item as well as for the total weighted item for IFE.
3. Creating an External Factor Evaluation (EFE) matrix to analyze external environmental factors. Through the EFE matrix, we get a weighted value for each item as well as for the total weighted item for EFE.
4. Creating a joint matrix of IFE and EFE (Internal-External), so that will know the position of supply chain quadrant for an importer of frozen beef for now. This Internal-External Quadrant consists of nine, which is the matrix between liquidation, shrinking, stability, growth.
5. Creating a SWOT matrix, with composition: SO Strategy (Strengths-Opportunities), ST Strategy (Strengths-Threats), WO Strategy (Weaknesses-Opportunities), and WT Strategy (Weaknesses-Threats).
6. Creating a Quantitative Strategic Planning (QSPM) Matrix analysis to generate alternative strategies.

METHODS OF RESEARCH

The approach of this research is qualitative with case study research strategy. A case is bound by time and activity, in addition, the researcher collects data in detail using various data collection procedures and in a continuous time (Sugiyono, 2013). The research was conducted in Jakarta, especially in two beef associations in Indonesia, i.e. Indonesian Meat Producers and Feedlot Association (Apfindo) mobilizing local beef producers, and Indonesian Meat Importers Association (Aspidi) mobilizing imported beef companies and frozen beef. In terms of data collection techniques, primary data were obtained in the form of in-depth interviews, questionnaires of Strengths, Weaknesses, Opportunities, and Threat (SWOT) as well as observation. Data that have been collected by researchers then processed. The secondary data is literature study. Supply chain management (SCM) model is used to analyze the data to answer the first and third item research questions, and analysis SWOT to answer the second question.

RESULTS AND DISCUSSION

Based on RPJMN 2015-2019 the national beef production sources are: (i) local beef, consisting of beef cattle, dairy bull, and dairy cow, which most them are beef cattle; (ii) feeder steer imported from Australia and fattened in Indonesia for about 100 days; (iii) imported frozen beef (Bappenas, 2013).

The business structure of beef cattle rearing in Indonesia consists of two types of business, namely breeding and fattening/finishing. The breeding effort is semi-intensive and extensive. Semi-intensive breeding efforts consist of natural mating and artificial insemination (IB). Natural mating uses the same cow (Bali cattle, Madura cattle, ongole-cross-breed cattle, Sumba ongole, and other local cows). The process of natural mating is much happening outside Java. In the meantime, breeding with artificial insemination utilizes superior cattle

cement of foreign cattle (Limousin, Simmental, Carolais, and Brahman) whose breed cattle can achieve greater life weight, and many occur in Java (Bappenas, 2003).

The Indonesian government has so far integrated the supply chain of imported feeder cattle and with local cattle production, i.e. in the short-term intensive fattening program (3 months/cycle). This effort is done by (feedlotter for commercial purposes and may occur in Lampung. Feeder cattle for fattening are imported from Australia in a very fast time (1-2 weeks) and with a large amount (2,000-3,000 heads) once transported to Indonesia. This business cycle is very short, which is about 150 days for farmers, and 9-100 days or even less for feedlot. The integration of local imports and production has so far been regarded as a promising effort for Indonesia to be self-sufficient in beef (Bappenas, 2003).

Until 2012, there is still a segment segregation of imported frozen beef allocated to meat, hotel, and restaurant and catering industry. In 2015 the segment of frozen beef is allowed to enter the general consumer segment, especially through traditional markets. Since 2015, the imported frozen beef distributor has faced two buyer segments, i.e. industry segment and general consumer segment. For the supply chain to the industry segment, the imported frozen beef distributor has been relatively well established. Meanwhile, their distribution chain to the general consumer segment through traditional markets is still very weak and faced with a chain of local beef distributions that have existed for decades.

Based on SWOT analysis and QSP matrix or Quantitative Strategic Planning Matrix (QSPM), it gets a recommendation of three strategies that can be implemented. Those three strategic recommendations are; (i) Strategy 1: Conducting tripartite cooperation (i.e. government, imported frozen beef distributor, and local beef distributor) to conduct joint marketing of imported frozen beef and procuring refrigeration equipment to the point of retailers in traditional market; (ii) Strategy 2: Expanding market share of imported frozen beef to industrial segments (hotels, meat processing company); (iii) Strategy 3: Working closely with imported beef suppliers to overcome the problem of taste (taste) and lack of weight of imported frozen beef.

The problem faced by the imported frozen meat distributor is not in the supply aspect, because from the supply side so far there are no significant constraints. The main problem of distributors is how their import goods can reach the end users in a massive and smooth manner. Based on the calculation of effectiveness and efficiency, the best option is cooperation. Cooperation between local meat distributors, feeder cattle, and imported frozen beef, which is mediated by the government. There are a number of technical aspects to be considered in the cooperation, among others, the issue of refrigeration equipment, electrical problems (energy) for refrigeration equipment, the problem of cooperative transcription system recommended by consignment system; as well as the problem of three major issues (halal slaughter, reduced scales, and the taste and aroma of frozen beef that is not appeared).

CONCLUSION AND SUGGESTIONS

According to the research results and related to the research purpose, it can be concluded that the distribution chain of frozen beef importers to the general consumer segment through traditional markets, is still very weak and should face local beef distribution chain that has existed for decades. The need for synergy (cooperation) between the producers, distributor and government, as such the constraints occurred can be resolved.

Theoretically or academically, the theme of this future research should be carried out with a mixed methods approach, combining quantitative and qualitative approaches, so that the elements of accuracy and mutual discussion are mutually supportive.

Practically, the government or the association of local beef, feeder cattle, and imported frozen beef should make decisions with more accurate data.

The government should pioneer the occurrence of this distribution cooperation, especially at the final distribution level. This way is expected to more widely spread of imported frozen beef products, so that sooner or later it will affect the amount of supply, and will lower the price of beef as a whole.

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ANALYSIS ON ECONOMICAL AND ECOLOGICAL POTENTIAL BENEFITS OF ARTIFICIAL CORAL REEFS PLANTING ACTIVITIES

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ABSTRACT
Conversion activities of mangrove forest area into plantation area at Damas Beach has caused sedimentational effect on the coral reefs and the increasing ecosystem damages in the coral reefs ecosystem, which in turn will affect on the decreasing yields of fishermen. This condition has caused vulnerability to the decline of fish resources as the ecosystem has been damaged. The alternative through planting the artificial coral reefs is one way to improve the ecosystem of the damaged coral reefs. This study analyzes the economic and ecological benefits of coral reef reforestation. Based on the results of the analysis, it was obtained that the artificial coral reefs of 9 sq. m. with a length of 8.3 m has been assumed to produce direct benefits in the form of ornamental fish production, while the indirect benefits are as living fish habitat, coastal protection and carbon sinks with the total economic value of IDR 4,580,344.18 per year.

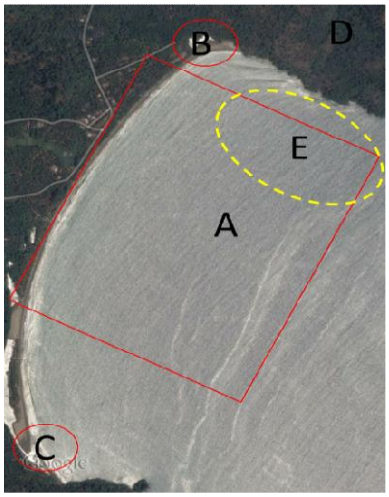
KEY WORDS
Community behavior, business development, artificial coral reefs, Prigi gulf.

Coastal areas have interconnected main ecosystems, namely coral reef ecosystem, mangrove ecosystem and seagrass ecosystem. Prigi Gulf area in Trenggalek Regency, East Java, has several beaches that have either mangrove ecosystem or coral reef ecosystems. Damas Beach is one of the coastal area located in Karanggandu Village, Watulimo District, Trenggalek Regency, western of the Prigi Gulf. Damas Beach has mangrove forest area around Bang and Ngrumpukan estuaries. The activities of the local community are considered less responsible in terms of the use of coastal areas, causing changes in the ecosystem of marine biota on the coastal area, particularly the atcivities of the coastal communities around Damas Beach.

Based on the results of studies by Susilo et.al. (2008) and Purwanti et.al. (2015) have indicated the tendency of the activities to reduce the coverage of mangrove forest around 2 river estuaries in Damas Beach at points B and C. In addition, there is also forest cutting activities near Mount Kumbokarno area at point D and land conversion in the surrounding area by planting productive trees which has caused flash floods. As the interconnectedness of mangrove ecosystems with coral reef ecosystems, and the water flowing to the sea carrying sediment and the use of tensile net at point A to catch fish, it has caused damages to the coral reef ecosystems at point E (Figure 1). Moreover, the mindset of local community near Karnggandu Village who consider the coral reef ecosystems are not lucrative in terms of economic value, so that the existence of coral reef ecosystems and its conservation is not the main concern for the community. Village Administration in 2009 has issued Village regulation Number 04 of 2009 on the Zoning of Coastal Area of Karanggandu Village, but the regulation has not run optimally to control the activities; there are still several misconduct of community activities that are potentially distructive to the ecosystems of mangrove forest, especially the coral reef ecosystems in the coastal area.

According to Cofish Project report in 2004, the condition of coral reefs in Ngrumpukan waters territory was categorized in serious damage. The dominant coral species are *Acropora* sp. with living coral coverage was about 35% of the 21 species of the coral reefs. Natural corals that grow in Ngrumpukan area, according to the research of Susilo, et.al. (2007), covered an area of 1 Ha in the steep hills in front of Ngrumpukan beach at a depth of

between 2 and 6 meters at the lowest ebb. There were 10 coral species that grow around the area, with coral coverage ranging from 10% to 75%, and the average coral coverage was 38.38%. The comparison of species of the coral reefs and their coverage between 2004 and 2007, there have been 11 species of coral reef declining, while in terms of the coverage, there has been an indication of increasing number of 3.38%. The increased coral cover is assumed due to the decreased sedimentation density as the surrounding forest has been recovering as well as the lowering number of naturally-unfriendly fishing practices.



Notes:
A: fish catch area with tensile net method
B: river estuary (Ngrumpukan)
C: river estuary (Pancer Bang)
D: Mount Kumbukarno
E: coral reef ecosystems

Figure 1 – The Overview of Coastal Area near Damas Beach

Such efforts to prevent the destruction of the two coastal ecosystems, Cofish Project that has ended in 2005, has established a community which is aimed at monitoring the ecosystems (*Pokmaswas*) "*Jangkar Bahari*" on Damas Beach for the management of coastal ecosystems and mangrove forests in Pancer Ngrumpukan and Pancer Bang. In addition, the Department of Marine and Fisheries of Trenggalek Regency together with the Center for Socio-Economic Research from the Ministry of Marine and Fisheries Affairs have assigned Pokmaswas "*Udang Jaya*" to manage the existence of coral reefs in the Prigi Gulf region.

The damage to the coral reef ecosystems in the coastal area of Damas has been mainly caused by human behaviors such as the use of environmentally unfriendly fishing gears, and the destruction of forest ecosystems has impacts on the coral reef ecosystems. Based on the above problems, one effort proposed is the utilization of artificial coral reefs that has been planted through the cooperation of two groups of mangrove management and coral reef management called "*Jangkar Bahari*" group and "*Udang Jaya*" group. The main objective of the artificial reef planting activities is to prevent the decline of fish resources and may increase the extent of coral coverage. This study aims to (1) describe coral reef planting activities that have been implemented in Damas Beach, and (2) analyze the economic ecological benefits of the planting of artificial reefs that have been planted in Damas Beach. The results of this study are expected to be used as the reference and input for local stakeholders in the management of coral reef ecosystems in Damas Beach.

METHODS OF RESEARCH

The material of this research is the planting activities of artificial reefs on iron frame and cast concrete. The method used for this research was the active participation method that the activities of active participation were done by involving 2 groups of mangrove management groups "*Jangkar Bahari*" and "*Udang Jaya*". In addition, the activities also involved local stakeholders namely Head of Karanggandu Village as the village level stakeholder and a public figure who served as the Head of Community Council of Forest Village (LMDH) "Argo Lestari" of Karanggandu Village. There were 25 25 artificial reefs planted with the dimension of the artificial coral reefs is 60 cm long, 60 cm wide and 10 cm

thick. The activities of the coral reef planting cost IDR 576,000 per unit of the artificial coral reef with an overall area of 0.288 m^3. The number of group members involved in the activities was 15 people.

The first objective of this research was analyzed through descriptive analysis by explaining the planting activities of the artificial reefs. For the second objective, it was conducted by using economic valuation of the planting of the artificial coral reefs both in terms of economic and ecological aspects, either direct or indirect benefits which is formulated as follows:

$$TEV = DUV + IUV$$

Where: TEV = Total Economic Value; DUV = Direct Use Value; IUV = Indirect Use Value.

RESULTS AND DISCUSSION

Planting activities of artificial coral reefs. The planting activities of coral reefs were initiated with negotiations with public figures and senior citizens who are domiciled in Damas and also leaders of community who utilize fishery resources in Damas Beach area. The initial negotiation was carried out in two stages. First stage was conducted with intensive two hour discussion with Head of *Pokmaswas* "*Jangkar Bahari*" dated July 17, 2017 evening between 7 to 9 p.m. at the Mr. JAT's home, with the main discussion was related to the plan of making the artificial coral reefs and working mechanism for the community. The second discussion was mainly conducted to meet the resource users in the area of Damas Beach. The discussion was easier as both of the figures joined in the local art group of *Jaranan Turangga Yaksa*, which was named *Kumbo Karno*, taken from the name of Ramayana puppetry legends, which is also used as the name of the mountain on Prigi Gulf.

Another discussion to explain the size and number of artificial coral reefs was carried out on July 18, 2017 at the art house together with Mr. DST. Residents requested from the IbM team to provide technical details of the artificial coral reefs. At the end of this initial negotiation would be followed up by the technical specifications of the artificial coral reefs and the way of transporting them to the middle of the sea and sinking them to the location of the expected coral reefs in Ngrumpukan. The initial negotiations of the second phase were delivered at the art house built at the border of Damas Beach.

The location of putting the artificial coral reefs on the bottom of the water was right on the natural coral reefs that have been damaged due to human activities. The first two stages of negotiation were also conducted with the head of community council. This negotiation is important to ensure the smoothness of IbM activities, and it also discussed the continuation of the development of the Citizenship Meetings in Damas area.

The second negotiation of the second phase was carried out by involving the representative of Damas residents at the community leader's house in Karanggandu. The negotiation of this phase has agreed on the technical dimensions of the artificial coral reefs with the following details presented in Table 1. The dimensions amd material requirements have been undertaken and agreed to be done within a month.

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There were two main topics for the Focus Group Discussion (FGD) with the Damas residents, namely: (a) ecological, social, and economic functions of coral reefs for life for both environment and human, and (b) the socialization of Village Regulation Number 04 of 2009. The materials for the discussion were delivered by IbM team, attended by 20 residents as well as by the Head of Karanggandu Village, Head of Gading Sub-village, and Heads of Neighbourhoods of Damas.

There are two main results from the FGD as follows:

According to Head of Karanggandu Village, the Village Regulation Number 04 of 2009 needs revision considering the inventions and development of management systems for coastal resources; and

Residents questioned the supervision mechanism towards the artificial coral reefs planted in the waters to ensure the preservation and continuity of the artificial coral reefs. As the existence of two groups of “Jangkar Bahari” and “Udang Jaya” in Damas area, and both have been directly involved in the procurement process of goods as well as the planting activities, the supervision was decided to be assigned to the two groups. In addition, there is an effort to extend the authority of coastal natural resources management having been conducted by Pokmaswas “Kejung Samudra”, which has been managing mangrove forests in Prigi Beach, which will also manage coral reef resources in the area.

Table 1 – Dimensions and specification of materials for artificial coral reefs made by the community

Number	Materials	Volume	Quantity	Total	Information
1	Concrete	(0,08 x 0,08, 0,08) cm x 12	25	1,55 m^3	
2	Graffle	0,85 x 1, 55	25	1,32 m^3	1,5 m^3
3	Sand	0,60 x 1, 55	25	0,95 m^3	1,0 m^3
4	Cement	8,5 x 1,55	25	13,175 sacks	14 sacks @ 40 kg
5	Iron (Ɵ 8 cm pure)	Bars	25	25 bars	
6	Wire			5 kg	
7	Nails			3 kg	
8	Formwork			On site conditional	

At the Cross-Sector Integration Meeting of Potential Management of Coastal Villages organized by the Department of Marine and Fisheries of East Java Province, held on 26-27 October 2017 in Ponorogo, Chief Executive Officer of IbM as the keynote speaker met with Head of *Pokmaswas* Ngrembeng, which has been specifically managing the coral reefs in Prigi Gulf. Therefore, the coral reefs in Prigi Beach in particular are managed by *Pokmaswas* Ngrembeng at Karanggongso Village in cooperation with Damas residents.

The process of putting (by drowning) the artificial coral reefs at the determined location in Ngrumpukan (Damas Beach) was carried out with the following stages:

The artificial reefs that have been ready to be drowned are transported by two people manually to the seashore.

The artificial reefs were transported by boat with four pieces for one route. The process of transporting was executed by three fishermen, including lifting the reefs from the beach to the top of the boat, transporting to the location and lowering (sinking) the artificial reefs to the bottom of the water.

The process of putting the artificial coral reefs was executed in two stages dated on: September 17th, 2017 with the total of 15 artificial reefs; October 14th, 2017 with the total of 11 artificial reefs.

There were 26 artificial coral reefs in total drowned to bottow of the water in Damas, near Pancer Ngrumpukan area.

Economic and Ecological Value of Artificial Coral Reefs. Assuming the average size of the artificial coral reefs of 0.36 m^2 per item, and there were 26 items drowned to the sea, the growing area of the artificial coral reefs would be around 9 m^2. In addition to the Damas Beach, the coral reefs in this area have become potential ecosystems producing direct benefits in the form of ornamental fish production, with the indirect benefits as the habitat for fishes, coastal protection and carbon sinks.

The artificial coral reefs drowned to the sea, as it was assumed would be in good conditions as stated in the studies by Asadi and Anthon (2017) that there is 13 Ha coral reef ecosystem in Bangsring area, and as it is calculated by using *effect on production method*, it may generate IDR 6,145,468,416 per year. If there are 9 m^2 of coral reef ecosystem, and there would be IDR 47,272.83 per m^2, the calculated benefits from the area namely fishing activity would be around IDR 425,455.47 per year.

The calculation of of indirect benefits such as for fish habitat using replacement cost method based on research by Asadi and Anthon (2017) yields IDR 306.64 per m^2. If there

are 26 coral reefs with the width of 9 m^2, then the value of the indirect benefit as a living fish habitat of IDR 2,759.76 per year.

The existence 9 m^2 of the artificial coral reefs drowned in the sea, it may break the 8.3 m^1 wave length. By using replacement cost method in relation to water breaker according to Maharmingnastiti, et al (2015) worthing IDR 500,000 per m^1 per year, so that the artificial coral reefs planting in this area would generate wave breaker value of IDR 4,150,000 per year.

Coral reefs have other function as to sink carbon. In Maharmingnastiti, et al (2015), it was described that the value of primary coral reef productivity of 2.5 kg/m^2 annually, while the carbon absorption value of IDR 94,620 per ton. With the width of the artificial coral reefs is 9 m^2, so the carbon absorption value would be IDR 2,128.95 per year.

Total Assummed Economical Value. The impacts of the artificial reef planting activities, based on the assumption of ecological and economic benefits, result in a value of IDR 4,580,344.18 per year. This value is the sum of the value of both direct benefits of ornamental fish production and indirect benefits of living fish habitat and carbon sink.

CONCLUSION AND SUGGESTIONS

The negotiation process with local people in Damas Village was conducted by several steps with some approaches. The first was to negotiate with the formal leader Head of Karanggandu Village, informal leader "*Mbah Demang*" as former Head of Karanggandu Village, who is also the Head of Community Council of Forest Village "*Argo Lestari*". The second step was to conduct negotiations with the community represented by the Head of *Pokmaswas* "*Jangkar Bahari*" and Head of cultivating group "*Udang Jaya II*" which utilizes the fishery resources in Damas Beach area, especially those related to the coral reefs.

The smoothness of the negotiation process was also supported by the art group "*Turangga Yaksa*", where the location of the art house is in Damas. In addition, the representatives of Damas residents are involved in this activity. This group has a high social capital in terms of networking or networking.

The description and specification of the artificial coral reefs have been agreed upon the community and the executors of the planting activities, including the mechanism of transporting the artificial coral reefs to the determined location of the sea in Prigi Gulf (Damas Beach).

It is assumed that the total value of ecological and economic benefits is IDR 4,580,344.18 per year.

Regarding the management of coral reefs in Damas Beach, it is better for the Village Government of Karanggandu to collaborate with *Pokmaswas* Ngrembeng that is legally performing coral reef management in Prigi Gulf. The management should involve Pokmaswas "*Jangkar Bahari*" and "*Udang Jaya II*" Group, which have been directly involved in producing and drowning the artificial coral reefs in Damas Beach.

The discussion of Village Regulation Number 04 of 2009 on Coastal Zoning of Karanggandu Village by Village Government of Karanggandu should involve relevant institutions related to coastal resources management in Prigi Gulf, for example Pokmaswas Kejung Samudra in Karanggandu Village, Pokmaswas Ngrembeng Raya in Tasikmadu Village, and Community Council of Forest Village in Karanggandu Village, Prigi Village and Tasikmadu Village.

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DIRECTIONS FOR INCREASING OF AGRO-INDUSTRIAL COMPLEX'S ECONOMIC EFFICIENCY IN THE CONDITIONS OF RUSSIAN FAR EAST MARITIME REGION

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ABSTRACT
The theoretical and practical basis of the effectiveness of the functioning of agro-industrial complex business entities of the Russian Far East maritime region presented in the article. It is proved that the growth of the Russian economy requires the development of agrarian production on an intensive basis, which will ensure food security. The negative consequences of the intensification of agricultural production, based on the maximization of income and the transition to the cultivation of highly profitable monocultures, were revealed.

KEY WORDS
Agribusiness, agro-industrial complex, agrarian sector, plant growing, livestock farming, agro-industrial enterprise, economic efficiency.

In conditions of escalation of food security problems special attention should be paid to the study of the state of agro-industrial production. Estimation of condition of national and regional agro-industrial complex (hereinafter - AIC) is also significant. The level of development of AIC and agro-industrial production is the determining factor not only for food security but also for economic security of the country. Food security issues are usually associated with the provision of country's population with basic food in sufficient quantity and quality, creation of state reserves and reserves of food and agricultural products, as well as the definition of the size of exports and imports. Solution of these questions requires an integrated system of agriculture and the agrarian market management development, implementation of modern tools and incentives to improve the system of food products' quality control. In the context of these tasks, relevant is the study of regional agro-industrial complex's development and functioning as the basis for the functioning of the agro-food market.

In recent years the agricultural sector of Russia has reached a stable positive dynamics, the tendency of agricultural production increasing is observed.

The process of formation of the structure of production and system of its organization are mainly completed as a result of land and agrarian reforms. Further development of agriculture, and plant growing as one of the elements of APICK, requires qualitative transformations, capable to provide competitiveness of production and food security of Russia. Solving of these problems is connected with strategic guidelines for the development of agriculture and plant growing in particular, which will be implemented by state policy in line with regulatory, financial-economic and other regulation of the branch. Key focus of this policy is the need of formation in the Russian Federation the innovative-investment model of development of agriculture, capable to ensure sustained accelerated growth.

MATERIALS AND METHODS OF RESEARCH

Subject and source base of the study is determined by the objective of the research. The study of AIC development and regulation of agricultural sphere's development problems

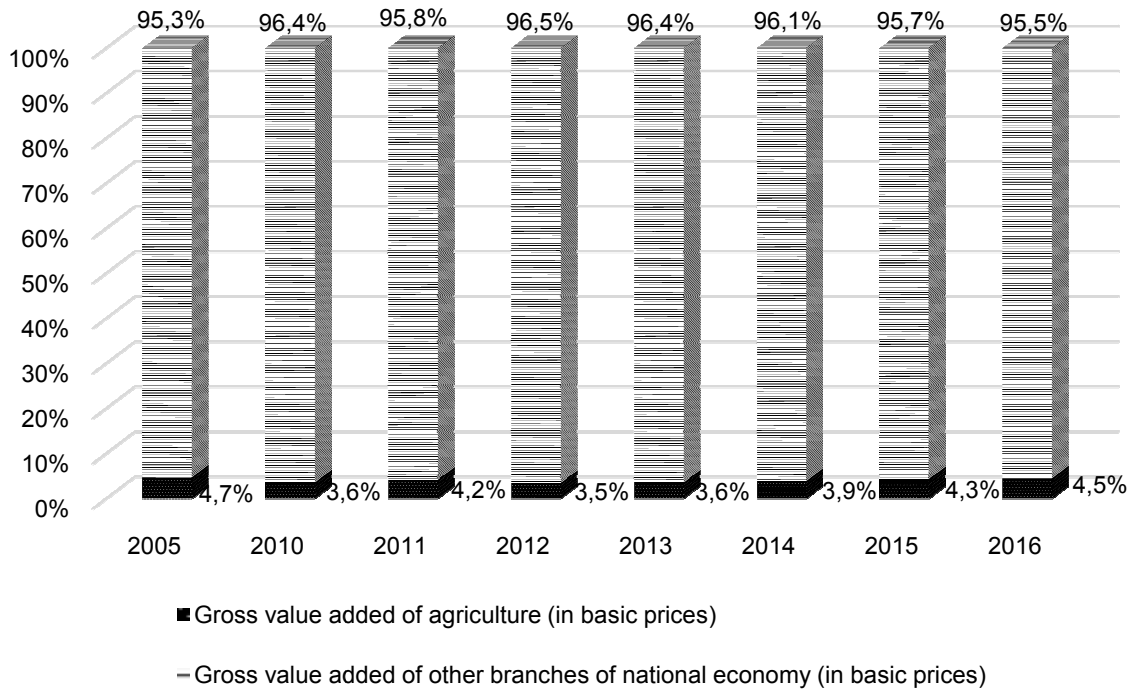
was the subject of numerous works of a number of scientists. Among them were V.G. Andreychuk, A. I. Altukhov, A. G. Babenko, V. M. Bautin, and S. N. Kvasha, V.I. Nechaev, V. V. Reimer, V. G. Tkachenko, P. T. Sabluk, I. G. Ushachev and others [6; 8; 11]. However, the volatility of the economic environment becomes relevant further search of ways of improvement of the efficiency of agricultural production, which determines the actuality of this article.

The purpose of this article is to estimate the status of AIC development, particularly the agricultural sector, as a precondition of food security of Russia and development of priority directions of efficiency of functioning increase of regional agribusiness subjects. The tasks were solved using the following methods of research: method of system analysis, monographic, logical, calculation-structural, graphic and other methods of scientific abstraction and logical generalization.

RESULTS OF STUDY

The AIC and its basic branch (agriculture), are the major strategic areas of the economy which form the agricultural market, food and economic security, labour and settlement potential of rural areas [1, 2]. AIC is an important sector of the national economy, including economic activity in production of agricultural products, food products, logistics (delivery to the final consumer). Functioning of other sectors of the economy significantly depend on the plant growing. Agricultural production occupies a central place in AIC. The growth of the Russian economy requires the development of agricultural production on intensive basis, which will ensure food security of country and guarantee to every person the opportunity of good nutrition with quality and safe products and realize competitive advantages of the country on the world food markets.

Plant growing usually form a substantial part of the national economy's GDP (Pic.1).



Picture 1 – The share of agriculture's gross value added in Russia's GDP,% [7]

The research of the retrospective and current state of development of agrarian sector of Russian Far East maritime region it should be noted that for the period since 1990, the agricultural sector has experienced transformational changes associated with land reform and establishment of market relations. As a result of reforms, in the role of main business

entities in the agricultural sector of the region appeared farms, agricultural organizations, agricultural and agro-industrial enterprises.

It should be noted that the territory of Russian Far East maritime region belongs to the territories with extreme natural-climatic conditions for agricultural production. According to the principle agro-climatic zoning – Russian Far East maritime region is the south territory.

Russian Far East maritime region has a fairly developed agriculture. Here enterprises grow rice, soybeans, wheat, barley, oats, potatoes and vegetables. Developed dairy cattle breeding, reindeer breeding and beekeeping. In 2015, agriculture provided the volume of production in the amount of 35.1 billion rubles, which amounted to 0.7% of the total cost of production of agriculture of the Russian Federation. It was the 46-th place among regions of Russia. The region accounts for a considerable part of Russian production of fish and fish products processed and canned. In 2015, the agricultural production of Russian Far East maritime region per capita at current prices was on the 65th place with 18.2 thousand rubles. The number of people employed in agriculture reached in 2015 7.8 thousand, while in agricultural production, operated 219 agricultural organizations, 947 farms and 183 thousands of private farms of the citizens. The production of agricultural products by all categories of farms in 2015 amounted to 35.1 billion rubles.

In the conditions of world population rising and the reduction of areas suitable for cultivation of crops, it is very important for each country to make full and effective use of the potential of the earth as one of the competitive advantages of domestic agriculture. Agricultural land use is one of the most important forms of land use. That is agricultural land use has the highest involvement of such a natural resource as the land in economic turnover. No sector of the economy is in such close relationship with the environment as agriculture.

The arable lands of the Far East because of the variety of climate, due to the great length from North to South and from West to East, have different potential fertility (table 1). Basically it is a low natural fertility and suitability of land for agriculture within the zone of influence of the monsoons and risks. The area of agricultural land on 01.01.2016 formed the share of 10% of the Region. In 2006 this share was 11.6%. More than a half (55%) of land of the region is covered by forest.

Table 1 – Area of agricultural land in the Russian Far East maritime region (thousand ha,%)

Main crops	Area of agricultural land						
	2005	2010	2011	2012	2013	2014	2015
The area of agricultural land, thsd ha	1651,5	1648,6	1648,4	1648,5	1648,5	1648,5	1649,2
The area of the agricultural land, in% of the total area	10,0	10,0	10,0	10,0	10,0	10,0	10,0
Sown area of agricultural crops in all categories of farms, thsd ha	340,1	314,0	340,8	379,4	379,0	423,9	413,7
Including:							
- the acreage of grain and leguminous crops	107,1	80,2	103,3	118,6	106,7	113,2	101,6
- the acreage of technical crops	137,1	139,4	146,5	171,5	176,0	218,2	223,0
- the areas sown with sunflower	0,0	0,0	0,0	0,0	1,0	0,0	0,0
- the acreage of potatoes	30,9	31,3	32,0	32,4	30,6	30,6	29,9
- acreage of vegetables	8,9	10,0	10,9	10,6	10,4	9,5	9,4
The structure of sown areas of agricultural crops in farms of all categories, in% of total arable land:							
- grains and legumes	31,5	25,5	30,3	31,3	28,2	26,7	24,6
- technical culture	40,3	44,4	43,0	45,2	46,4	51,5	53,9
- potatoes and melons	11,8	13,3	12,8	11,5	11,0	9,6	9,7
- fodder crops	16,5	16,8	13,9	12,0	14,4	12,2	11,8

The region is on the 41st place by the size of cultivated areas in Russia - 413,7 thousand of ha (0.5% of the total cultivated area of Russia). More than 80% of arable lands of the Far East are concentrated in the maritime region. First place in the structure of sown areas of Russian Far East maritime region is soy (53.9% of all space), corn (8,6%), rice (5.0%), oats (4.6%), wheat (4.4%).

The region is formed by Khanka-Ussuri, Forest and Coastal areas of specialization of agriculture. Most favorable for the development of agricultural production are the Khanka-Ussuri area, and the southern subzone of the Coastal zone, giving nearly 85% of the gross

output of agriculture in the region. The share of crop production is 52,8% of the total cost produced in the Russian Far East maritime region agricultural production. The share of livestock is up to 47.2%.

Table 2 – Economic efficiency of agricultural production in Russian Far East maritime region

Indicators	2005	2010	2011	2012	2013	2014	2015	Place of the region in RF, 2015
Plant growing								
Crop yields, centners/ha								
Grains	11,8	19,4	22,8	23,2	23,9	27,8	30,9	-
Sunflower	25,0	14,2	13,2	14,3	14,2	11,5	13,5	
Soya beans	8,2	11,8	14,1	11,9	10,3	14,2	12,4	
Potatoes	101	115	119	133	122	139	116	
Vegetables	116	152	160	169	175	194	177	
Gross harvest of agricultural crops, thousand tons								
Grain crops (in weight after processing)	121,5	144,7	230,5	234,5	229,3	307,3	299,7	48
Sunflower	0,1	0,1	0,1	0,1	1,5	0,0	0,0	42
Soya beans	130,9	142,2	160,0	163,5	150,2	272,2	262,0	5
Potatoes	308,4	359,5	379,8	401,2	365,4	421,5	333,2	40
Vegetables	106,9	161,0	182,3	176,3	184,8	193,2	155,0	35
Fruits and berries	17,9	15,3	18,2	16,4	13,7	13,7	16,1	47
Livestock farming								
The number of cattle in all categories of farms, thousand heads:	73,6	61,5	61,3	66,4	65,2	65,1	64,8	65
cattle	37,6	31,1	30,6	32,4	32,2	31,9	32,8	67
- including cows	41,4	79,0	91,3	94,1	97,7	98,7	134,3	46
Pigs	24,7	26,3	27,6	33,0	29,7	32,7	31,9	60
Production in livestock farming								
Cattle and poultry for slaughter, thsd tonnes	23,6	34,7	37,2	39,8	36,3	36,2	33,7	59
Milk, thsd tonnes	113,5	109,5	106,8	113,2	119,5	118,6	123,5	62
Eggs, mln.	270,4	309,0	327,9	329,5	282,3	302,6	347,1	36
Wool, tonnes	28	38	34	29	34	31	34	56
Honey, tonnes	1951	2590	4690	3734	3861	4660	4948	3
Performance indicators								
Agricultural production in all categories of farms (in current prices), mln. RUB.	9476	21240	26057	27850	28938	37734	40951	-
Index of production of agriculture in all categories of farms, in comparable prices,% to previous year	96,1	103,9	110,6	99,2	98,1	113,0	93,8	
- plant growing production	92,3	102,2	114,7	96,3	98,9	119,4	88,7	
- livestock farming production	101,6	106,3	104,7	103,9	97,0	102,2	102,6	
Balanced financial result (profit minus loss) of organizations, mln. RUB.								
- plant growing	-13	144		-93	361	-196	-985	
- livestock farming	210	284		211	-22	-188	-856	
The profitability of sold goods, products (works, services) of organizations,%								
- plant growing	-2,6	6,6 3		3,1	20,0	13,2	11,6	
- livestock farming	17,5	12,4		8,1	-1,6	2,9	-12,4	

In 2015 Russian Far East maritime region was on the 3rd place in Russia by the indicator of the production of soybeans (262 thousand tons), or 9.7% of the total fees of this culture by the end of 2015; production of rice was on the 4th place with 50.7 thousand tons or 4.6% of the national crop of rice; production of beans - 9-th place among regions, or 4.4% of the total Russian volumes; melon food crops - 12-th place, or 0.8%, field vegetables - 16-e a place, and 1.0%; corn -16th place, or 1.4%.

The analysis shows the transformation of the structure of sown areas for the analyzed period. One of the important legumes soybeans becomes, in 1990 the share of acreage of soybean crops accounted for 21%, in 2015 of 66%. This culture is one of the most cost-effective – the level of profitability of production in the Russian regions ranges from 5% to 50%. At the same time, it is necessary to ensure the preservation of fertility of agricultural lands and their normal phytosanitary condition, in this case, the growth of the area under soybean must be accompanied by the expansion of cultivation of perennial grasses and grain crops.

Livestock farming Russian Far East maritime region is presented by main streams: milk and meat cattle breeding, pig breeding, industrial poultry keeping. Small businesses units are engaged in rabbit breeding and breeding of small cattle (goats and sheep). Product of the livestock branch of agriculture in the region in 2015 placed on following position: pork production - 54-th place among regions of the Russian Federation, beef - 65-th place, poultry - 44-th place, lamb and goat meat - 65-th place, milk - 62-nd place, eggs – 36-th place.

In a market economy where all factors of the production process must not only be formed in optimum proportions, but used to maximum effect, not so important to have a certain resource, how to use it effectively. Under the cost-effective use of land scientists understand land use, economic viability which is determined by the ratio of economic effect with the area of the land plot in accordance with its quality and distance. Economic efficiency of use of agricultural land in Russian Far East maritime region, reflected in the economic efficiency of agricultural production, is characterized by positive dynamics (table 2): there is an increase in gross charges of production and crop yields.

By the results of the conducted analysis it can be noted that the gross output of agriculture in Russian Far East maritime region during the last five years has increased by 10-20%. The major share of the crop formed potatoes and vegetables, grains, livestock – farming of cattle, pigs and poultry, production of milk, honey and eggs. In the Far East of Russia, the priorities recognized by the industry of soya cultivation, rice, and grains production. In 2015 in all categories of farms, milk production reached the level of 105%, compared with the level of 2014. Index of production in agricultural organizations, in comparison with 2014, was 116%. Compared to 2011, milk production in five years increased by 16%. Production growth was gained due to the increase in the number of dairy cows in farms of all categories. Their number increased to 102% in relation to 2014. In agricultural organizations the number of cows raised on 3.5% compared to 2014.

Also tend to increase natural indicators - crop yields. However, the growth of gross output may occur with a reduction in gross yield, or constant level at the expense of price growth [10].

Land resources are the basis of production and economic activity in agriculture. Their effective use in modern conditions should be based on such principles as the equality of all forms of ownership of land, payment for land-use, targeted, rational and environmentally safe use of land. But the intensification of agricultural production based on maximizing income and transition to highly profitable cultivation of monocultures leads to negative consequences, such as: contamination of land by residues of chemicals as a result of their constant and uniform usage; lower prices for agricultural products as a result of proposals growth; loss of traditional markets for other agricultural products; the failure of rational types of rotations; selling raw materials and not products with high added value; ignoring the principle of comlex agricultural production and the decline of beef and dairy cattle; increased degradation of agricultural lands; the destructive influence of agrolandscape and biodiversity.

Features of agricultural production of the transition period and market economy are the following: sharp decline in gross agricultural production (1990-2000) turned gradual increase since 2000, due to the formation of the diversity in rural areas and the creation of organizational and legal structures of the market type; created new agricultural enterprises of market type, various organizational-legal forms of business activity which becomes profitable; ability to implement entrepreneurial skills have helped raise the level of productivity in agricultural production; overcome the negative trend of loss of livestock

production, the trend of increasing profitability; the growth of profitability of agricultural enterprises helped to increase average monthly wages in agriculture.

The result of the study revealed the problems of plant industry of Russian Far East maritime region, which are the following: expansion of acreage under cultivation of cultures than cause depletion of the soil; reduced crops fodder crops group, cereal crops, legumes; low crop yields, increase which is feasible through the use of modern and innovative resource-saving technologies; the concentration of production of fruit and vegetables in households that do not have appropriate storage facilities to store it; the lack of infrastructure implementation of such products through a fruit and vegetable store; high energy - and resource-intensive crop production; lack of innovative approaches for the treatment of soil and crops cultivation system (No-Till, organic production, drip irrigation); deficit of highly qualified personnel who are able to work on the latest tools and perform high-tech operations to grow crops; lack of financial resources for building productive capacities, the acquisition of machinery and equipment.

The main problems of the livestock industry are: reduction of a livestock of cattle, cows; the inability of small farms to produce products that meet international quality standards; the total decline in production of livestock products; import of food products of animal origin with low quality; absence in the region of domestic breeding base of highly productive breeds of cattle and pigs; decrease in the production of high quality beef and pork, and replacing it with cheaper and less energetically valuable poultry, mainly chicken intensive cultivation technology.

CONCLUSION

The results of the study indicate that Russian Far East maritime region, as well as the country as a whole, does not provide food security in full. Agriculture of the region is influenced by many factors such as: availability of water and land resources, unfavorable climate for the cultivation of many crops, food imports. In our opinion, to ensure food security, taking into account all risks, directions of agricultural policy should be the following: improving soil fertility and productivity, the expansion of sowing of crops at the expense of unused land, reconstruction and building of meliorative systems; the expansion and use of potential marine biological resources; the creation of new technologies of complex processing of food raw materials, methods of storage and transportation; improved utilization of scientific and technical potential; development of scientific potential of AIC, the implementation of measures to prevent the outflow of scientific personnel; development of system of training, capable to solve tasks of development of the agricultural sector with the requirements of food security; increased rate of structural modernization of the agricultural sector, reproduction of natural ecological potential; improvement of mechanisms of regulation of agricultural market and elimination of price disparity; formation of the pricing mechanism on the basis of indicative prices for key products; increase availability of food to all population groups; formation of a healthy type of food through the development of programs on problems of healthy nutrition; accelerated development of the infrastructure of the agro-food market; improving the system of food safety monitoring: monitoring of compliance with the requirements of the legislation in the field of agricultural products and foodstuffs, including those imported; to monitor the distribution of food products derived from genetically modified plants using genetically modified microorganisms.

Thus, we can conclude that the primary task of macroeconomic regulation is dramatically changing business environment. The solution to this problem, in our view, requires: strengthen the regulatory role of the state, which will reduce the stochasticity of the conditions of functioning of agricultural enterprises; development and implementation of strategic management principles; development of state scientific and technical and economic programs in priority directions of development of the agrarian economy; development and implementation of new approaches to the taxation system based on strengthening the role of stimulating function of taxes; implementation of new financial policies aimed on stimulating demand and investment activity while containing inflation; the formation of a favorable

investment climate through tax benefits, including benefits on the territories of accelerated development, and increased capital investment as an instrument of state agricultural policy; improvement of market mechanisms of price regulation, including price parity relations for all types of products; improving the competitiveness of agricultural enterprises; preferential crediting of agricultural enterprises; development of new resource-saving technologies of production; introduction of modern methods of management of enterprises; the formation of specialized areas and concentration of production of agricultural products and foodstuffs, vertically integrated structures.

The implementation of these priority measures is almost independent from business entities and is a long process. Therefore, at the present time significantly increases the value of the transformation of the internal environment of agricultural enterprises to ensure their competitiveness. Improving efficiency in the agricultural economy requires the development of agricultural production on intensive basis, which will ensure food security of the country, guaranteeing to every person the possibility of full nutrition and quality safe food products and to realize the competitive advantages of countries on world food markets.

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VALUE ADDED ANALYSIS ON PINDANG TUNA FISH BUSINESS IN PUGER DISTRICT OF JEMBER CITY

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ABSTRACT
The business of pindang tuna fishing is classified as traditional industry which is labor intensive. This industry has characteristics cultivated by small entrepreneurs, simple production techniques, and management handled by the family. Based on the above fact, this study aims to find the amount of value added to pindang tuna fish business in Puger District of Jember City, Indonesia. Data collection method was done by census method to all pindang tuna fish entrepreneurs who are still actively doing the activity at the time of this research. At the time of this study there were 35 fishing entrepreneurs still operating. The required data include the sale value of pindang tuna fish, the price of fresh tuna fish, the cost of auxiliary materials for making pindang tuna fish, the amount of production, the amount of working capital and the number of production equipment used in the process of pindang tuna fish. The result of value added analysis that by processing the tuna fish into pindang tuna fish was more profitable than the direct sale of fresh tuna fish. The reason is to process the fish first into the pindang fish will create value added in the form of capital gains plus the wages of labor.

KEY WORDS
Value added, pindang tuna fish, working capital, price.

The development of the industrial sector in the 21st century is aimed at strengthening the national economic structure. The development of the industrial sector is carried out with a strong and mutually supportive inter-sectoral linkages, expanding employment and business opportunities, as well as encouraging the development of various other development sector activities.

Most of the Indonesian population is in rural areas and livelihoods are mainly in the agricultural sector, while the contribution of the agricultural sector to Gross Domestic Product (GDP) and employment decreases, but the agricultural sector is still burdened to accommodate the workforce, while the industrial sector increases on Product Domestic Product (Ananta, 1993). Therefore, it is necessary for the development of industrial raw materials using agricultural products (agro industry). Increasing the development of agroindustry is expected to affect the development of the agricultural sector, so in addition to sufficient food needs the agricultural sector can support as a provider of raw materials for the industrial sector. Industrial development is a function of the main purpose to improve people's welfare, not an independent activity for just physical needs alone (Arsyat, 1992).

Jember city is one part of Indonesia territory where the population in rural areas is mostly in the agricultural sector, hence the development of industrial sector is needed, especially industrial sector which use raw material from agriculture sector (agroindustry), in order to increase people's incomes and open new job opportunities. As in the District of Puger Jember City which most of the population is farmers and fishermen, one of the opportunities to improve produtivitas in the agricultural sector is the development of fish processing into pindang fish. In addition to employment opportunities as well as the acquisition of additional income for local communities and avoid the risk of damage to fish. Increasing the amount of production is also necessary because with increasing production quantities will affect the prosperity of the population, through additional income and employment (Hasibuan, 1997).

Pindang fish business is one of the traditional folk industry that generally use labor from within the family and also from outside the family. Those who become entrepreneurs of pindang tuna fish are not caught as fishermen. The labor used in pindang fish processing business in Puger is 3.53% of the family and the rest is 96.47% from outside the family.

Types of fish that are used as raw material of pindang fish is tuna fish. Production results are influenced by the season, the busy season takes place in the fourth month until the tenth month, while the quiet season takes place in the first month, second, third, eleventh and twelfth. The composition of fishery production in Puger is distributed 15% fresh fish, 5% kerupuk fish, 50% pindang fish and 30% of salted fish (Jember Fishery Service, 2016). Through the process of pindang fish is expected to create value added in the sense of acceptance of wages coupled with the benefits of capital owners (Rony, 1990).

In addition to creating value added, in the business of this pindang fish also at the same time can expand employment for the local population. By going through the process of the pindang fish industry is not just sold, but still needs to be processed. Processing fish into presrves tuna fish will be able to absorb labor and at the same time can raise the purchasing power of local communities. By raising people's purchasing power, it will increase the entrepreneurs' enthusiasm to increase their production.

In accordance with the objectives of national development, that is besides increasing the big and medium industries. In addition, it should continue to develop and preserve the lives of small and medium industries and traditional home industries. This is because most of Indonesia's population is located in rural areas, which generally work in the agricultural sector and small industrial sectors and household handicrafts.

In this business of pindang tuna fish, it is expected to be able to efficiently cost the business in order to obtain the benefits expected by the entrepreneurs, and also to create value added for local people to improve their welfare. Because with the creation of value added it will be able to strengthen the purchasing power of the community that will impact on increasing the daily needs of the local community.

Therefore, traditional small industries of pindang tuna fish are expected to increase income. Method of saving raw materials in the sense of avoiding waste and also need continuity in production by having stock of raw material at not season of fish.

The purpose of this study is to determine the amount of value added by processing the fresh tuna fish into pindang tuna fish. This, aimed in order to equitable income for the people of Puger District Jember City.

LITERATURE REVIEW

The research of fisheries industry in Indonesia is still very little compared to the research in other sectors outside the fishery sector. But the results of Harjono (1996) research on several factors that affect the profit and implication on the development of salted fish processing industry and pindang tuna fish in East Java showed that the fish is the main raw material for the pindang tuna fish business. The percentage is about 85 percent to 90 percent in the production cost structure derived from this component. While the implications of the availability of raw materials will determine the existence of the company both in the short and long term. Profits can be regarded as a stimulator for the growth and development of pindang tuna fish business, also much influenced by the price of raw materials and labor wages. While the family labor services in the production cost sector are not calculated the financial value. Based on the quantity of raw materials of fresh fish processed directly will determine the value of equipment investment, the value of working capital and the amount of labor. Viewed from the profit aspect of pindang tuna fish business, large scale is the scale that has the best profit level compared to small and medium scale.

The result of research of manurung (1989) on the socio-economic aspects of salted fish processing in Muncar found that the intensity is low, whether viewed from the quantity of business, the degree of participation and the technical capacity index and also there is an indication that the larger the scale, the lower the business intensity. To distinguish between the scale of business in the processing of pindang fish can be seen the amount of besek

containing pindang fish on average each time the process that can be produced by each craftsman of pindang tuna fishing.

As a contribution or additional knowledge about pindang fish in this study trying to calculate how much value added that can be created by the business of pindang tuna fish. The value added can be defined as the wage of labor plus the profit of the capital owner (Rony, 1990). For example, cotton production is carried out by the agricultural sector. Cotton output by textile companies is an input to make cloth, then cloth is an input for convection company. In situations like this, when calculating the total product can occur repeated calculations, then to avoid repeated calculation should each production process is calculated separately in each company in each sector. Thus in calculating the value of production calculated only the added value of each sector, namely the difference between the value of production with the value of intermediate goods in the form of raw materials or basic materials, auxiliary materials and other auxiliary materials used to produce these products (Deliarnov, 1995) are as follows:

$$NT = NK - NM$$

Note: NT = Value Added; NK = Output Value; NM = Input Value.

Table 1 – Calculation of Added Value of Cotton Making Become Batik Clothes (Thousand Rupiah)

Sector/Sub-sector	Production	Output Value	Inpun Value	Value Added
Primary				
- Agriculture	Cotton	100	0	100
Secondary				
- Spinning	Yarn	150	100	50
- Weaving	Mori Fabric	210	150	60
- Batik Activity	Batik Fabric	280	210	70
Tertiary				
- Tailor	Batik Clothes	480	280	200
- Trading	Batik Clothes	550	480	70

Source: Introduction to Macro Economics.

Business scale is the average production that can be produced by every employer. Based on the distribution of business scale are criteria as follows:

Table 2 – Criteria of Business Scale On Pindang Tuna Fish Business in District Puger

Business Scale	Code	The Number of Entrepreneurs	Average production per day (In Besek)
Small	K	14	<1.000
Medium	S	11	1.000-5.000
Large	B	10	>5.000
Total		35	

Source: Primary data is processed.

Production value is the result of the sale obtained based on the selling price. How to calculate it based on price per besek, and each average besek contains two tuna fish. The raw material used in this pindang business is the type of tuna fish and its purchase is measured by basket (cut), the contents of each basket 40 tuna type of fish. The amount of cash that to finance the pindang business, namely starting costs of raw materials, auxiliary materials, wage labor and marketing costs. Production equipment is equipment used to process fresh fish to become pindang fish. This pindang business appliance is used:

- Eser Plat is a place to boil fresh fish that can accommodate 600 besek per one process.
- The stove is a gas heater. Scale of business that uses the stove is medium and large scale business.
- The fireplace is a place to burn wood and also as a heater. The business scale that uses these stoves is mostly small-scale business.

- Jedingan or tub that contains ice water to soak the tuna fish so as not to be quickly damaged and rot. Jedingan or tub is made of red stone and cement. Jedingan or tub is rectangular and placed near the place of boiled tuna fish.

Production capacity is the ability to produce an average per day for each entrepreneur of pindang tuna fish calculated based on the besek. The selling price is not always the same each time the market or varies, but in this study used is the direct selling price. The cost of raw material is the pice of fresh tuna that uses basket or cut size, which one basket contains 40 tuna fish as raw material for pindang. The typical pindang fish entrepreneurs in Puger District all use raw materials from tuna fish species.

METHODS OF RESEARCH

This research was conducted in Puger District Jember City. Selection of this location is done intentionally (purposive) with the consideration that this area of the most processed fish species into pindang is a type of tuna fish.

Population in this research is all entrepreneurs pindang still doing activity. The population is 35 entrepreneurs of pindang tuna fish. The method used is census. The census method is to take the entire population as the subject in this study. The data required in this study consist of primary and secondary data. Primary data collection was conducted through interviews with pindang entrepreneurs, workers and fish auction officers. Primary data required in this study is data that have links with working capital, the amount of production, production equipment and fishing season data.

Secondary data were taken from the relevant agencies of this study, such as the Puger District Office and the Statistical Office. Some of the secondary data required are geographical conditions, population conditions, employment conditions, educational conditions and number of registered pindang entrepreneurs. To answer the purpose of this research, that is value added analysis on the business of tuna fish in Puger, then used the formula as follows:

$$NT = NP – HB – HIP$$

or

$$NT = NK – NM$$

Where:

NT = Value Added;
NP = Average Production Value per Day;
HB = Average Cost of Raw Material per Day;
HIP = Average Input Price of Auxiliary Materials per Day;
NK = Output Value (Selling Value or Output);
NM = Input Value (Cost of Raw and Auxiliary Material or input).

RESULT AND DISCUSSION

The characteristics of the pindang business can be seen from five important aspects, namely respondent aspect, raw and auxiliary material aspects, production equipment aspect, employment aspect and business scale aspect. Most forms of companies in the business of pindang tuna fish is individual companies. Head of the company directly held by the head of the family. So the ability to run business management depends on the factors of education, age and experience. Most of the pindang entrepreneurs have a low education, namely primary school graduates. The age of the pindang business is ranged from 30 years to 60 years. Aspects of the pindang tuna fish business experience of existing in Puger on average they have been working for more than 15 years. This business is inherited, so the

management capability of the pindang tuna fish is supported by the maturity of the business and the experience of his parents.

The main raw material in this business is the type of fresh tuna fish. To produce quality pindang need fresh tuna fish and pure salt. The size of the tuna must be uniform to keep the penetration (absorption) of salt in the pindang fish flesh to be perfect. To meet the needs of raw materials of tuna, done by: (1) fish auction system at TPI (fish auction), (2) direct bargain and (3) retail purchase. Regarding the way the payment can be made cash or payment behind after pindang sold. However, in Puger most direct payments are made.

For the price of raw materials there is a difference between the fish season and the quiet of the fish season. This happens because in the fish season, the fish production is abundant so the price of the fish becomes cheap around Rp 130.000 per basket. In quiet fish season then the price per basket up to Rp. 250,000. In the quiet fish season most entrepreneurs will reduce production because in addition to expensive, tuna fish raw materials also become rare.

Needs of auxiliary materials, salt, gas, firewood, ice cubes, besek (banana leaf), raffia rope, bamboo and claras can be obtained in the local area and usually the seller comes by himself at the place of business. The usefulness of auxiliary materials in this business of pindang tuna fish is as follows:

a. Salt, for flavor enhancers and keep long-lasting fish from the risk of damage, usually lasting 3 to 4 days.

b. Gas/Firewood, for heating.

c. Ice cubes, for soak the fish to keep the fish fresh and not decompose or damaged.

d. Besek (banana leaf), for pindang fish that is ready to be marketed.

e. Raffia straps, fot tie the joints with each of the contents of 14 besek (banana leaf).

f. Bamboo, to hold group of besek so as not to be easily damaged.

g. The cost of transporting raw materials from the fish auction place is quite cheap because it is bulk.

The production process of making pindang in puger generally use simple equipment and run by human power. The tool used is a test plate (a place to boil fish), gas stove (to boil fish), fireplace (heater using firewood), and tub (place sap fresh). For large scale business activities separated from households. For medium-scale and small-scale enterprises to become one with the household.

For labor wage system in pindang tuna fish business there is uniformity for all business scale. His wage system calculates the sum of the besek and renteng. For wage organizing and washing and boiling is used count per besek. To transport the production of pindang fish to trucks which are then marketed using renteng, where each renteng contains 14 besek.

The production value of the pindang business depends on the selling price of the production. The price of pindang fish is always changing and not the same on every shipment. In this study used to find the production value is the value of average production per day obtained by entrepreneurs. The average value of production obtained by small-scale enterprises amounted to Rp.2.520.000 to Rp.7.650.000, medium-scale business Rp.10.000.000 to Rp.50.000.000, and large-scale business Rp.60.000.000 to Rp .130.500.000. For average selling price received by small scale business Rp.9000 / besek, medium scale business and large scale business Rp.10.000 / besek. This price difference occurs because of different marketing areas. Large-scale and medium-sized enterprises marketing in Malang and Surabaya City. Medium small scale business marketing around Jember City.

In the technique of pindang tuna fish process between each business scale there is no difference. In general the way of making this commodity is described as follows:

a. Fish from TPI (fish auction place) directly inserted into Bak (jedingan) containing ice cubes. This aims to make the fish to be made fresh pindang.

b. The washing stage aims to keep the fish clean and not easily damaged.

c. Structuring in besek (banana leaf) which each contains two tuna fish and sprinkled with salt to taste.

d. Boiling stage, which is stage where compilation of besek on ancak bamboo. The fullness is fully inserted into the teser plate containing salt water in a boil state and left for 40 minutes to 60 minutes.

e. The last stage is the lifting stage of the teser plate. Then drained and doused with warm water. It aims to keep pindang fish clean.

Table 3 – Value Added of Pindang Tuna Fish Business Average Per Day

Number of Acquisitions	I Sale Value of Pindang (Rp)	II Sale Value of Fresh Tuna (Rp)	III Difference (I-II) (Rp)	IV Cost of Auxiliary Material (Rp)	Value Added (III-IV) (Rp)
01	2.520.000	1.820.000	700.000	346.600	353.400
02	2.700.000	1.950.000	750.000	351.000	381.000
03	3.150.000	2.270.000	870.500	436.000	439.000
04	3.600.000	2.600.000	1.000.000	514.000	485.780
05	4.050.000	2.920.000	1.125.000	570.000	555.000
06	4.050.000	2.920.000	1.125.000	570.000	555.000
07	4.500.000	3.250.000	1.250.000	625.990	624.001
08	4.950.000	3.575.000	1.375.000	682.000	693.000
09	5.400.000	3.900.000	1.500.000	774.000	726.000
10	5.850.000	4.225.000	1.625.000	830.000	795.000
11	6.300.000	4.550.000	1.750.000	901.000	864.700
12	6.750.000	4.875.000	1.875.000	957.000	913.000
13	7.200.000	5.200.000	2.000.000	1.028.000	972.000
14	7.650.000	5.525.000	2.125.000	1.083.990	1.036.010
15	10.000.000	6.500.000	3.500.000	1.192.000	2.303.000
16	12.000.000	7.800.000	4.200.000	1.403.990	2.790.920
17	14.000.000	9.100.000	4.900.000	1.652.000	3.242.910
18	15.000.000	9.750.000	5.250.000	1.757.990	3.491.650
19	17.000.000	11.050.000	5.900.000	1.987.000	3.963.000
20	20.000.000	13.000.000	7.000.000	2.355.000	4.645.000
21	25.000.000	16.250.000	8.750.000	2.954.000	5.796.000
22	30.000.000	19.500.000	10.500.000	3.516.000	6.984.000
23	35.000.000	22.750.000	12.250.000	4.103.000	8.147.000
24	45.000.000	29.250.000	15.750.000	5.268.000	10.482.000
25	50.000.000	32.500.000	17.500.000	5.809.990	11.690.010
26	60.000.000	39.000.000	21.000.000	7.032.180	13.967.820
27	65.000.000	42.250.000	22.750.000	7.625.000	15.125.000
28	70.000.000	45.500.000	24.500.000	8.224.000	16.276.000
29	75.000.000	48.750.000	26.250.000	8.756.000	17.494.000
30	80.000.000	52.000.000	28.000.000	9.290.000	18.710.000
31	85.000.000	55.250.000	29.750.000	9.826.000	19.920.300
32	90.000.000	58.500.000	31.500.000	10.390.000	21.110.000
33	100.000.000	65.000.000	35.000.000	11.620.000	23.372.600
34	120.000.000	78.000.000	42.000.000	13.932.000	28.056.600
35	135.000.000	87.750.000	47.250.000	15.532.000	31.718.000
Total	1.221.670.000	799.045.000	422.625.000	143.895.730	278.729.270

Source: Primary Data Analysis.

Pindang fish have characteristic of perishable goods. Therefore, pindang fish should be immediately marketed. Pindang fish from puger marketing mostly in Surabaya, Malang and Jember. The transportation used is a truck. Each truck has a capacity of carrying 5000 pieces of averages.

The production output for each entrepreneur does not have a brand. However, both the merchant and the consumer will know where the pindang comes from, that is, by the transport used (truck). Promotional activities are not done, but promotions can pass from one consumer to another. In addition, entrepreneurs must maintain the quality of goods. The way of marketing or distribution done by most of pindang fish entrepreneur in Puger, that is «Producer – Collectors – Retailer – Consumer».

Production volume is measured by the amount of fish containing which can be average produced per day by company. In quiet fish season, entrepreneurs tend to reduce the amount of production. This is done because of the rareness and expensive of fresh tuna fish. In fish season, entrepreneurs will return to produce in accordance with the average ability per day.

Production volume can be used as a scale of business. Therefore, business scale measurement depends on the normal ability of the entrepreneur to produce average pindang fish per day during the fish season, because entrepreneurs can use their working capital during the fish season.

Value added has an important meaning for a production activity. The amount of added value is the average production value per day minus the average material use per day and the average auxiliary material cost per day. Value added is the profit of the employer plus the wage of labor.

The result of the value added of the business of pindang tuna fishing is shown in table 3. From table 3 that if fish are sold directly, will earn income amounting to Rp799.045.000. If the fish is processed first into pindang after it is on sale, will get Rp1.221.670.000. So there is a difference between sold directly and processed into pindang Rp1.221.670.000 - Rp799.045.000 = Rp422.625.000.

The calculation of the value added shall be reduced the cost of the auxiliary materials required in the process of pindang tuna fish, as follows: Rp422.625.000 - Rp143.895.730 = Rp278.729.270. So the value added obtained by processing the fish become pindang is Rp.278.729.270. This is in line with the objectives of agro-industry development. The target of agro industry is to create value added.

CONCLUSION

Based on the results of this research analysis can be concluded that by processing the fish into pindang will be able to create value added in the framework of the distribution of people's income. The calculation results show that after the fish is processed into pindang can produce value added (gain of capital owner plus the wage of labor) equal to Rp278.729.270 per day. This shows that through the process of pindang fish more profitable than directly sold through fresh fish. Because by going through the process of pindang fish will require labor and avoid the risk of damage to fish and the equalization of public income. This situation is in accordance with the situation in the study area that the composition of the distribution of fisheries in the Puger area is 50% in pindang, 15% sold fresh, 30% salted fish and 5% for kerupuk.

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QUALITY IDENTIFICATION OF SKIPJACK TUNA (KATSUWONUS PELAMIS) CAUGHT USING POLE-AND-LINE VESSELS IN SORONG CITY

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ABSTRACT
Fish handling on vessels plays an important role in the quality of skipjack tuna. The purpose of this study was to identify the quality of pole-and-line caught skipjack tuna. The study was conducted using a descriptive method and purposive sampling, taking a sample of 3 vessels. An analysis was conducted through organoleptic, microbiological, and chemical (histamine) tests. Data were analyzed by descriptive, qualitative and quantitative displays via tables and graphics. The results of organoleptic, microbiological and chemical tests showed that skipjack tuna caught by pole-and-line vessels were still suitable to be consumed.

KEY WORDS
Skipjack tuna, pole, line, Sorong.

Skipjack tuna is the product of pelagic species fishery. Medium-sized skipjack of *Scombridae* (tuna) family is the only species of *Katsuwonus* genus (Suara *et al.,* 2014). Skipjack tuna (*Katsuwonus pelamis*) is one of the economically valuable fish resources resulting from Indonesia's waters, both as an export commodity and domestic consumption (Tumonda *et al.,*2017). Fishes of *Scombridae* family such as tuna, komu, skipjack, mackerel naturally contain histamine (Hattu *et al.,* 2014).

Skipjack tuna is in high demand throughout the world because of its abundant population and high nutritional value (Saeed *et al.,*2013). Skipjack tuna can be found in almost all the waters of Indonesia (World Wide Fund for Nature, 2015). The result of skipjack catches in Indonesia in 2015 was 122,587 tons (KKP, 2015) while the catches of skipjack in Sorong City in 2012 amounted to 2,339.4 tons which then experienced an increase of 42.14% in 2016 to 3,325.2 tons (Supervisor Work Unit of Marine and Fishery Resource of Sorong City, 2016).

Skipjack tuna catching in Indonesia is mostly done using *pole-and-line* fishing gear (Sunoko and Huang, 2013). Pole-and-line method belongs to a type of curved line attached to a pole (fishing rod) so that it is categorized into a selective and environmentally friendly fishing method. Therefore, *pole-and-line* fishing gear is highly recommended for catching skipjack tuna (World Wide Fund for Nature, 2015). According to Metusalach *et al.* (2014), gill nets and ring nets cause a higher level of damage than fishing rods and *bubu* (traditional fish pot/trap). Fish is a perishable foodstuff. After caught, fish is often placed at the room temperature in a long time, resulting in decreased quality and post-harvest fish spoilage (Olodosu *et al.,* 2011). Freshness quality changes can take place enzymatically, chemically and bacteriologically followed by an organoleptic decline. Fish is perishable due to biochemical and microbiological changes occurring during the post-harvest time, which is the leading cause of decreased quality (Mol *et al.,* 2007). The treatment aspect when the fish caught is very important to note because it involves how to obtain a good quality fish (Mboto *et al.,* 2014). This study aimed to examine and identify the content of histamine, TPC, and organoleptic contained in skipjack tuna caught using *pole-and-line* fishing gear.

MATERIALS AND METHODS OF RESEARCH

Skipjack tuna used were caught using pole-and-line vessels in Sorong City with the average length of 50-58 cm and weight of 3,000 – 4,000 g per fish obtained from the catches of skipjack tuna using pole-and-line vessels in Sorong City.

The primary tool used in this study to test the histamine content was a spectrofluorometer, and the analysis of total plate count (TPC) used a stomacher (*Interscience Bagmixer*) and Petri dish containing *plate count agar* (PCA).

The study used a descriptive survey method while the sampling was conducted on three (3) pole-and-line vessels using a purposive sampling method. The selection of the three (3) vessels was based on the consideration that these three (3) vessels existed in Sorong City, sized 40-90 GT, and used the same cooling system, *i.e.*, using ice. Fish were taken at three points, covering the fish that were placed in the bottom of holds (C), the middle of holds (B), and the top of holds. It was done to determine the fish quality based the fish location or position differences in the holds.

Based on ISO 2729:2013, an organoleptic test of fish consists of six (6) specifications, *i.e.*, eyes, gills, mucus on the fish skin surface, fish (flesh), smell and texture. The analysis of TPC was done based on SNI 01-2332.3-2006. The test of histamine content was carried out using spectrofluorometer with a method referring to ISO 2354.10.2009.

Data analysis of organoleptic was processed using SPSS Statistics 17.0 while data for the histamine test was processed using Microsoft Office Excel. Histamine contents were analyzed using an analysis of variance (ANOVA) at the significance level of 0.05. Additionally, the nonparametric data (organoleptic) were tested using *Kruskall Wallis* test.

RESULTS AND DISCUSSION

Pole-and-line vessels have fish holds (hatches) functioning to keep the fish catches and ice as the coolant. The holds should be cleaned before and after being used.

The ice used was in the form of ice blocks sized 50 kg with the total 400 – 500 blocks of ice for once sailing. The ice blocks used were crushed and then used to lower the temperature of the fish. The fish caught were washed using clean sea water. The fish preparation in the holds was conducted in a *bulking* method, *i.e.,* piling up the fish in the cargo holds with an ice-coated base. The fish were piled up in multi-layers, alternating with layers of ice.

Organoleptic Quality. The analysis results showed that the organoleptic quality of skipjack tuna covering the eyes, gills, mucus, fish (flesh), smell, and texture had a significant difference, in which the fish location or position in the holds caused different organoleptic values (Table 1). Meanwhile, one of the quality requirements of organoleptic test suggests that the standard minimum value is 7 (SNI 2729:2013).

Table 1 – Average Organoleptic Test Results of Skipjack Tuna

Sample Code		Specification					
		Eyes	Gills	Mucus	Fish (Flesh)	Smell	Texture
Vessel 1	A	8.9±0.15	8.9±0.15	9±0	8.5±0.29	8.6±0.27	8.7±0.34
	B	8.6±0.27	8.8±0.16	8.6±0.37	8.4±0.16	8.3±0.26	8.5±0.29
	C	8.2±0.15	8.5±0.29	8.3±0.12	8.1±0.28	8.1±0.16	8.1±0.15
Vessel 2	A	8.9±0.15	8.8±0.16	8.7±0.26	8.5±0.21	8.6±0.25	8.8±0.16
	B	8.5±0.21	8.5±0.33	8.7±0.22	8.4±0.21	8.5±0.21	8.4±0.41
	C	8.1±0.25	8.3±0.22	8.3±0.12	8.4±0.25	8.1±0.22	8.6±0.16
Vessel 3	A	8.7±0.61	9±0	8.8±0.15	8.7±0.42	8.5±0.44	8.8±0.84
	B	8.5±0.20	8.8±0.16	8.7±0.24	8.5±0.20	8.4±0.07	8.5±0.20
	C	8±0	8.3±0.36	8.3±0.24	8.1±0.28	8±0	8.1±0.15

Source: Data of Research Results (2017).

The fish placed in the bottom part of holds had the lowest organoleptic value. In linear, a study conducted by Ekasari *et al.* (2017) showed that skipjack tuna recently purchased from the Fish Auction (*TPI*) of Tumumpa obtained an average organoleptic value of 9. Meanwhile, Irianto (2008) explained that the preparation of fish in a hold should not be more than three layers of fish because it can cause physical damage to the fish placed in the bottom or lower layer due to the weight of ice and fish put on it. Moreover, Murniyati and Sunarman (2000) added that the piles of fish and ice should not be more than 50 cm.

If the number of fish stored is quite a lot, horizontal bulkheads should be used to hold the second and next layers. Increased temperatures can cause a significant decrease in organoleptic values (Zhang *et al.,* 2011). The analysis results of *Kruskall Wallis* suggested that the organoleptic value of skipjack tuna in different fish location or position in the holds showed a significant difference (P<0.05).

Total Microbial Content (TPC). The TPC test results of skipjack tuna caught using the fishing gear of pole-and-line are presented in Figure 1. The TPC test results of the three vessels with different fish positions in the holds showed that the number of bacteria living in skipjack tuna was still below the threshold limit of the ISO standards for fresh fish or microbial contamination in food. Based on ISO 2729:2013, the quality and safety requirement of fresh fish is 5 x 10^5 colonies/gram.

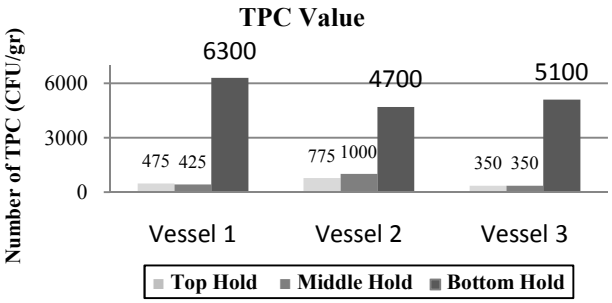

Figure 1 – Average TPC of Skipjack Tuna

The activity of microorganism can cause fish spoilage and be used to measure the quality of the fish (Cosansu *et al.,*2011). The TPC test results of the three vessels showed that fish placed in the top of the holds obtained TPC values ranging from 3.5 x 10^2 – 7.75 x 10^2 while those set in the middle of the holds obtained TPC values ranging from 3.5 x 10^2 – 1.0 x 10^3. On the other side, the TPC test results of the fish placed in the bottom of the holds gained TPC values ranging from 4.7 x 10^3 – 6.3 x 10^3. Widiastuti and Putro (2010) reported that tuna caught directly by fishermen who live in *Pelabuhan Ratu*, West Java using vessels equipped with insulated holds and without being weeded have a TPC value of 10^2 colony / g.

The TPC test results of the three pole-and-line vessels with different fish positions in the holds indicated that the fish handling on the vessels was quite good and the ice used for cooling and storing the fish was adequate. Refrigeration of fish can prolong the fish freshness for 12 to 18 days after the fish catching (Adawyah, 2007). Moreover, Husni *et al.* (2015) stated that the increase and decrease in TPC values could occur because fish meat is a suitable medium for bacterial growth.

Fish freshly caught should be given with crushed ice to keep the fish in a good condition when being marketed and to inhibit or stop the activity of detrimental substances and microorganism because, according to Siburian *et al.* (2012), the fish storage at cold temperatures or frost can also destroy the microbes that lead to fish spoilage. Wibowo *et al.* (2014) revealed that the use of a low temperature of 0° C after fish died can extend the phase of rigor mortis, lower the enzymatic, bacterial and chemical activities as well as minimize the physical fish changes. Moreover, Gram and Dalgaard (2002) added that the use of low temperatures will inhibit microbial growth in fish.

Histamine Contents. The laboratory test results showed that the average histamine contents of skipjack tuna caught using pole-and-line vessels ranged from 1.20 – 1.90 mg/kg as presented in Figure 2.

Histamine production in fish depends on the histidine content of the fish, the presence of decarboxylase enzyme-producing bacteria and environmental conditions (Kantun *et al.,*2015). Results of histamine contents of skipjack tuna caught using pole-and-line vessels ranged from 1.26 mg/kg to 1.8 mg/kg. The value is far below the standards set by ISO

2729:2013. Widiastuti and Putro (2010) found that the histamine content values of fresh tuna landed in *Pelabuhan Ratu,* West Java ranged from 1.28 – 1.61 mg/100 g.

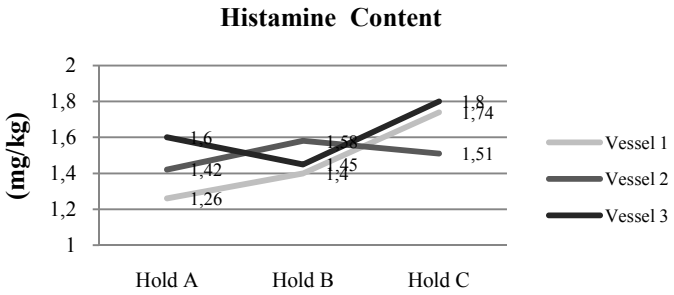

Figure 2 – Histamine Contents of Skipjack Tuna

The test results of fish histamine contents in Vessel 1 showed that the amount of histamine content of skipjack tuna in the bottom of the hold was 1.74 mg/kg. It was higher than the amounts of histamine contents of skipjack tuna placed in the middle and top of the hold, which respectively amounted to 1.40 mg/kg and 1.26 mg/kg. It occurred because the pile of fish in the hold was too high. Besides, instability of the temperature in the hold and the catching time that was too long would lead to the shrinkage or melting of coolants (ice), making it very difficult to maintain the stability of the temperature in the hold. According to Kantun *et al.* (2015), the temperature instability will stimulate increased histamine. Furthermore, according to Heruwati *et al.* (2004), histamine cannot be formed at 0°. Therefore, FDA determined that the critical limit temperature for histamine growth in fish is 4.4^o C (FDA, 2011).

The test results of fish histamine contents in Vessel 2 showed that the amounts of histamine contents of skipjack tuna placed in the bottom, middle, and top of the hold were respectively 1.51 mg/kg, 1.55 mg/kg, and 1.42 mg/kg. It indicated that the histamine content of skipjack tuna placed in the top of the hold was fewer than those set in the middle and bottom of the hold. It possibly happened because the crew did not evenly give or put the ice in the hold. According to Setiawati *et al.* (2016), each fish must be covered with ice. Low temperatures can control the formation of histamine (Kerr *et al.,* 2002).

Furthermore, the test results of histamine contents in Vessel 3 showed that the amounts of histamine contents of skipjack tuna placed in the bottom, middle, and top of the hold obtained respectively 1.6 mg/kg, 1.45 mg/kg and 1.8 mg/kg. It was because the ice was not spread evenly. During or after being stored at the temperature of above 4° C, fish will experience the formulation of histamine (Evangelista *et al.,*2016). Failure to apply the cold chain during the fish handling and processing is the primary factor triggering an increased histamine content in fish (Heruwati *et al.,*2014). Handling without weeding at sea will further accelerate the increase in histamine (Kantun *et al.,* 2015).

The results of variance analysis showed that the different positions in laying the fish in the holds did not significantly influence the formed histamine content of skipjack tuna ($p>0.05$).

CONCLUSION

In general, the findings of this study suggest that the organoleptic results of skipjack tuna range from 8 to 9. Meanwhile, the results of TPC contents range from 3.5×10^2 to 6.3×10^3, and the results of histamine contents range from 1.26 mg/kg to 1.8 mg/kg. To sum up, the test results of organoleptic, TPC and histamine of skipjack tuna caught using pole-and-line vessels still meet the quality standards of ISO 2729:2013. Besides, different positions in laying fish in a hold significantly influence organoleptic test results ($p<0.05$) but do not significantly influence the histamine contents ($p>0.05$).

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ANALYSIS OF WATER QUALITY PARAMETERS FOR SEAWEED (EUCHEUMA COTTONII) FARMING SITE SUITABILITY IN MANDAR BAY, WEST SULAWESI, INDONESIA

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ABSTRACT
This study aims to analyze the water quality parameters for seaweed (Eucheuma cottonii) farming. The study was conducted in water areas of Mandar Bay for 3 months. Water quality samples were analyzed in the water quality laboratory of Politeknik Pertanian Negeri Pangkajene Kepulauan, South Sulawesi, Indonesia. The method used was explorative research by using survey method and direct measurement field. Determination of stations used GPS. The data obtained were analyzed according to environmental parameters to determine the site suitability with Geographic Information System approach. Six water quality parameters which did not meet the requirements for seaweed farming business, i.e. current velocity, dissolved oxygen, BOD, COD, Nitrate and phosphate were found. The total water areas of Polewali Mandar Subdistrict were 1.252.66 ha, the site with highly suitable rate was 65.39 ha and the site with marginally suitable rate was 1.187.27 ha. Based on the village area, Polewali village had highly suitable site of 13.16 ha and marginally suitable site of 231.89 ha, Wattang village had no highly suitable site of 0 ha and marginally suitable site of 126.22 ha, Lantora village had highly suitable site of 11.30 ha and marginally suitable site of 142.12 ha, Takatidung village had highly suitable site of 39.85 ha and marginally suitable site of 142.23 ha and Manding sub-district had highly suitable site of 1.08 ha and marginally suitable site of 34481 ha.

KEY WORDS
GIS, land suitability, Eucheuma cottonii seaweed, physical ans chemical conditions.

Polewali Mandar is one of the seaweeds producers in West Sulawesi. Production of *Eucheuma cottonii* seaweed in Polewali Mandar Regency has decreased to date (DKP Polman, 2015). This potential needs to get priority handling in order to make a greater opportunity to increase aquaculture production in the future. Identification of the site feasibility for the aquaculture development is important for spatial planning in accordance with the allocation to avoid conflicts of interests between marine and fisheries sector and other sectors. The identification of the accurate site can also be used as a success indicator of the farming efforts in accordance with the type of commodity and farming technology to be applied (Dahuri, 2001).

Coastal development for seaweed farming activities cannot be separated from water suitability factor. The main obstacles in the development of seaweed farming in Indonesia are the water location incongruity, water quality parameter unsuitability, and feeling-based site of farming (Hartoko and Helmi 2004). Furthermore, Hardjowigeno (2001) argues that land suitability is the fitness of a given type of land for a defined use by determining the value (class) of land and land use patterns related with the potential of the territory, so more targeted land use can be used for business and sustainability.

An alternative analysis approach is used to make it easier to know the suitability of land in a large area or region with the application of Geographic Information System technology

(Hambali, 2012). Furthermore, it is believed that based on spatial analysis with Geographic Information System (GIS) approach, land suitability class for seaweed farming could be obtained Longdill et al, (2008)

This study aims to analyze the water quality parameters for seaweed (*Eucheuma cottonii*) farming in the water areas of Mandar Bay, West Sulawesi. The results of this study are expected to be a reference material in the management of water quality for seaweed farming efforts in Mandar Bay, West Sulawesi.

MATERIALS AND METHODS OF RESEARCH

The research was conducted in October-December 2015 in a seaweed production area at Mandar Bay. The bay is located in $03^{o}\ 42^{1}\ 87^{11}$ – $03^{o}\ 45^{1}\ 16^{11}$ S and $119^{o}\ 30^{1}\ 06^{11}$ – $119^{o}\ 35^{1}\ 43^{11}$ E. Polewali Subdistrict, Polewali Mandar Regency, West Sulawesi Province, Indonesia.

This research was an explorative research. The researchers conducted surveys and direct measurements in the field by using quantitative approach with hypothesis testing. The testing aimed to collect data and information on the research location to obtain actual data related to seaweed farming activities in Mandar Bay (Sugiyono 2005).

Sampling was conducted on 12 stations by carrying out purposively sampling with consideration of seaweed farming (Figure 1). Each site of observation wherever possible represented or described the condition of the water areas. According to APHA (1998), before measurement and sampling, the determination of the coordinate point by using Global Positioning System (GPS) should be done first.

Figure 1 – Sampling Site

Data obtained in this research were primary and secondary data. Primary biophysical data were temperature, salinity, brightness, water depth, current velocity, directly-performed pH measurements, dissolved oxygen, nitrate, phosphate, BOD, and COD in the laboratory. For seaweed farmers, the data was obtained through interviews and questioners. Secondary data were obtained through Journals, Research Institutions, Earth Stations, Central Bureau of Statistics, and Department of Marine and Fisheries.

Conformity analysis was done based on utilization limiting parameter in terms of ecological aspect. The initial criteria were ecological factors such as temperature, salinity,

brightness, water depth, current velocity, pH, dissolved oxygen, COD, BOD, nitrate, phosphate, (Hartoko and Kangkan, 2009; Anwar and Burhanuddin, 2016; Semedi et al, 2016).

Based on the feasibility assessment system referred to Bakosurtanal *(Badan Koordinasi Survei dan Pemetaan Nasional*, National Coordinator for Survey and Mapping Agency) (1996) and DKP (*Dinas Kelautan dan Perikanan*, Department of Marine and Fisheries) (2002), the feasibility for seaweed farming is divided into four classes with 64.0-80.0 score is categorized Highly Suitable (S1), 48.0-63.9 score is categorized Moderately Suitable (S2), 32.0-47.9 score is categorized as Marginally suitable (S3) and <32.0 score is categorized as Not Suitable (TS).

RESULTS AND DISCUSSION

Based on the results of water quality parameters measurement at the sampling sites in 12 stations, the temperature range was between 30.0-30.6^{o}C, the salinity range was between 29.6-30.6 ppt, and the pH was in the range of 7.28-7.96. All three parameters were in the highly suitable range for seaweed farming.

Brightness range between 3.5-9.0 m which was a highly suitable range for seaweed farming was located at stations 1, 2, 6, and 8, while other stations were not qualified for seaweed farming. Water depth range between 1.9-8.5 m which was a highly suitable range for seaweed farming was at station 2, 5, and 8, while other stations averagely did not meet the requirements for seaweed farming.

Biochemical Oxygen Demand (BOD) values range between 5.88-9.75 mg/L which was in the range of organic material contamination was found at station 1, 2, 5, 6, 7, 8, and 11. Chemical Oxygen Demand (COD) values range was between 108-117 mg/L. The value was in the range of pollution which could be found at the station 3, 4, 5, 9, 10, 11, and 12. Figure 2 presents a more detailed result.

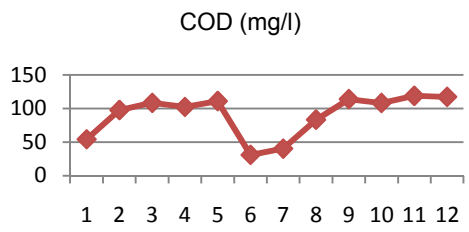

Figure 2 – COD Range Curve

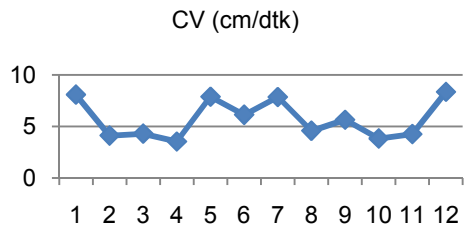

Figure 3 – Current velocity range curve

Current velocity range was between 3.5-8.3 cm/s (Figure 3), DO range was between 2.05-2.45 mg/L (Fig 4), and nitrate range was between 0.00010 - 0.00315 mg/L (Fig 5). The phosphate range was between 0.0069-0.1607 mg/L. The four water quality parameters were in the not suitable range and did not meet the requirements for seaweed farming in Mandar Bay waters.

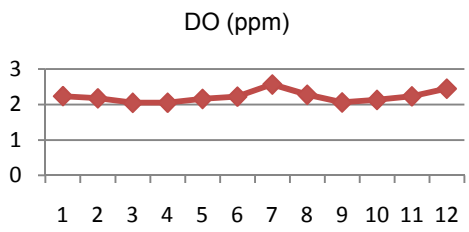

Figure 4 – DO Range curve

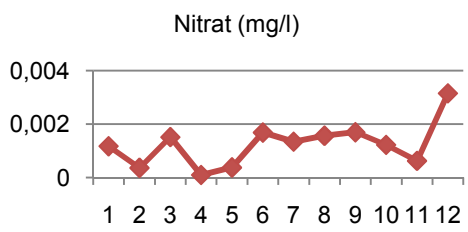

Figure 5 – 1 Nitrate Range Curve

Based on the spatial (overlay) analysis results of water suitability for seaweed farming in Mandar Bay, West Sulawesi with the seaweed growth determinants such as water depth, brightness, current velocity, temperature, salinity, pH and DO, Nitrate, Orthophosphate, BOD, and COD, it was found that the total water areas of Polewali Mandar Subdistrict was 1.252.66 ha, the site with highly suitable rate was 65.39 ha and the site with marginally suitable rate was 1.187.27 ha (Figure 6).

Figure 6 – Site suitability location of Mandar Bay water areas are in green color

Based on the subdistrict areas which is divided into five villages, Polewali village had highly suitable site of 13.16 ha and marginally suitable site of 231.89 ha, Wattang village had no highly suitable site of 0 ha and marginally suitable site of 126.22 ha, Lantora village had highly suitable site of 11.30 ha and marginally suitable site of 142.12 ha, Takatidung village had highly suitable site of 39.85 ha and marginally suitable site of 142.23 ha and Manding sub-district had highly suitable site of 1.08 ha and marginally suitable site of 34481 ha.

CONCLUSION

Water quality parameters which did not meet the requirements for seaweed farming were namely current velocity, dissolved oxygen, BOD, COD, Nitrate and phosphate.

The total water areas of Polewali Mandar Subdistrict were 1.252.66 ha, the site with highly suitable rate was 65.39 ha and the site with marginally suitable rate was 1.187.27 ha. Based on the village area, Polewali village had highly suitable site of 13.16 ha and marginally suitable site of 231.89 ha, Wattang village had no highly suitable site of 0 ha and marginally suitable site of 126.22 ha, Lantora village had highly suitable site of 11.30 ha and marginally suitable site of 142.12 ha, Takatidung village had highly suitable site of 39.85 ha and marginally suitable site of 142.23 ha and Manding sub-district had highly suitable site of 1.08 ha and marginally suitable site of 34481 ha.

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LIFE OF THE RIVERINE FISHERMEN: PRESENT STATUS OF LIVELIHOOD STRATEGIES AND ECONOMIC CONDITIONS AT PAYRA RIVER, BANGLADESH

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ABSTRACT
A study was conducted to find out the livelihood condition of Payra River, located at the Angaria union of Dumki upazila under the district of Patuakhali for twelve months from July, 2012 to June, 2013. In the present study, it was found that highest percentage (40%) of the fishermen is young (21 to 31 years) where about 92% of the fishermen used boat for fishing. By religion, 46% fishermen are Muslims and majority (54%) fishermen are Hindus. In terms of education, 50% had education up to primary level, 12% of fishermen in secondary level, 4% fishermen had education up to SSC level and 6% had no education. About 54% of the fishermen are dependent on upazila health complex for health facilities. Maximum housing condition of the fishermen are Earthen made (52%), 44% are Tin shed building and only 4% are fully furnished cemented building. Service and labor are the main occupation of 4% fishermen. Majority (80%) of fishermen main income source is fishing and among them 54% of the fishermen had 1 to 10 decimal homestead lands and majority (72%) of the fishermen had no agricultural land. In case of other occupation 28% fishermen are involved in agriculture as other occupation, 40% fishermen in day laborer, 8% fishermen in business and 2% fishermen in service. The average monthly income was found to be Tk. 15000 when agriculture is the main occupation. When fishing is the main occupation the monthly income is Tk. 10410. It has been observed that 54% fishermen have training on one or more than one related matter, 46% have no training. So from this study, we can conclude that the livelihood statuses of the riverine fishermen of Payra River were not satisfactory and the fishermen were deprived of many amenities.

KEY WORDS
Payra River, livelihood strategies, riverine fishermen, economic conditions.

According to FAO, Bangladesh is one of the world's most important inland fishing nations. Fish contribution national GDP and agricultural GDP is 3.69% and 23.12%, respectively (Department of Fisheries Report, 2015). Total employment in fisheries sector is for 17.80 million people (11% of total population) and in woman employment in fisheries sector is 1.40 million (8.49% of fisheries sector employment) (Department of Fisheries Report, 2015). But, still fishermen are one of the most vulnerable communities in Bangladesh. The livelihood statuses of these fishermen are not satisfactory; availability of fishes in the river is also declining day by day (Mahmud et al., 2015). Most of them are live

from hand to mouth (Ali *et al.,* 2014). Hossain et. al., 2015 stated that fishermen are traditionally poor and fishing is considered as a low-class profession in Bangladesh.

The most critically and sensitive areas for open water aquaculture in Bangladesh is south western coastal area which supplies both fresh water and salt water indigenous fishes (IUCN, 2003). Payra River is a body of running water moving to a lower level in a channel on land in the country of Bangladesh and the river finally falls into the Bay of Bengal by the name of Burishwar River (Islam et al., 2015). This river is an exclusive aquatic ecosystem with diversified species of plants, fish and other organisms and most of the catch of this river is landed by small-scale local fishermen (Islam et al., 2015). This area of the river consisting of fishery plays a very important role in the alleviation of rural poverty and supplying food to the poor fishing community (Mahmud et al., 2015).

The vast majority of the fishing communities of Bangladesh are confronting more or less similar problems that standing the way of increasing catch and hence income from fishing operations and fishermen are one of the most vulnerable communities by any standard and over the years (Hossain et al., 2013). Alam and Bashar (1995) estimated the average per capital annual income of the fishermen families to be BDT 2,442 i.e. about 70% lower than the per capital income of the country as a whole. Being an isolated community fishermen are deprived of many amenities of life. Pollnac (1991) has reported that the relationship between technology and social organization in small-scale fishing communities was regarded as providing the essential contest for the institutional system, where the poor would be helped by equipment's and new technology. For this aim, investigation of social patterns, economic system and some related aspects of the fishermen are to be found as the basic need. So, this study was conducted to evaluate the living condition of fisherman near Payra River to find out their standard of living.

METHODS OF RESEARCH

This study was conducted to find out the fisheries of Payra River, Patuakhali, Bangladesh for 12 months from July, 2012 to June, 2013. The study was based on collection of primary and secondary data. Firstly, a pretesting questionnaire was developed keeping in view the objectives of the study, then a final questionnaire was then developed in logical sequence so that the fishermen could answer chronologically. According to the experience gained in pre-testing, the final questionnaire was improved, rearranged and modified. Secondly, Primary data were collected through personal interview complemented by multiple methodological Participatory Research Approach (PRA) tools such as Focus Group Discussion (FGD) and Crosscheck Interviews (CI) with key informants namely Sub-district Fisheries Officer (UFO), AFO, and relevant NGO workers for the confirmation of relevant information. FGD sessions usually were held at river bank or in a tea stall and CI of respondents were conducted in their office. After collection of data, these were edited and coded. All the collected data were summarized and scrutinized carefully and recorded. Then, finally all of the data were analyzed by using certain statistical tool in the Microsoft Excel.

RESULTS AND DISCUSSION

Human capital. The age structure of the riverine fishermen in Payra River was examined. They are divided into five age groups: 10 to 20 years, 21 to 31 years, 32 to 42 years, 43 to 53 years and above 54 years. The fishermen in the present study are mostly 21 to 31 years (40%) and 32 to 42 years group (30%) who could afford much energy and labor in catching fish. There were no under aged fishermen found during this study. Rabbani (2007) recorded age group of 25-50 years was highest (46.67%) and more than 50 years were the lowest (25%) of the riverine fishermen in the Karatoa river, which is not similar to the present findings.

In the present study, 46% fishermen are Muslims and majority 54% fishermen are Hindus. Rabbani (2007) reported that about 86.67% and 13.33% riverine fishermen are Hindus and Muslims respectively. Mahmud (2007) stated that the highest (74%) number of

fishermen were from Muslim community where as only 26% were from Hindu community. Muslim is coming to this profession in an increasing number through breaking the previous norms and value of the society which are due to the economic hardship and lack of employment scope in other sectors.

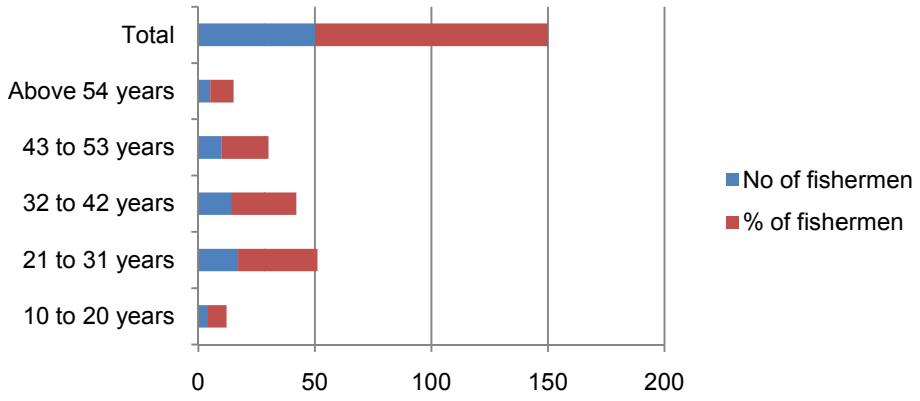

Figure 1 – Age distribution of riverine fisherman in the Payra River in the southern Bangladesh

Human resource developments are largely a function of education. In this present study, it was found that 6% fisherman had no education, 28% were capable to write name, 50% fishermen had education up to primary level, 12% Secondary (up to 8 classes) level and only 4% of fishermen had education up to SSC (10 class pass) level. The highest members of fishermen (50%) with primary level education were a remarkable feature for the fishing community in the Payra river system. Shahjahan (2000) reported that 63.33% of riverine fishermen were illiterate, 31.67% had up to primary level of education and 5% of riverine fishermen had only secondary level of education in the Jamuna River. Rabbani (2007) reported that 20% of riverine fishermen were illiterate, 71.67% of riverine fishermen were up to primary level of education and 8.33% riverine fishermen had only secondary level of education.

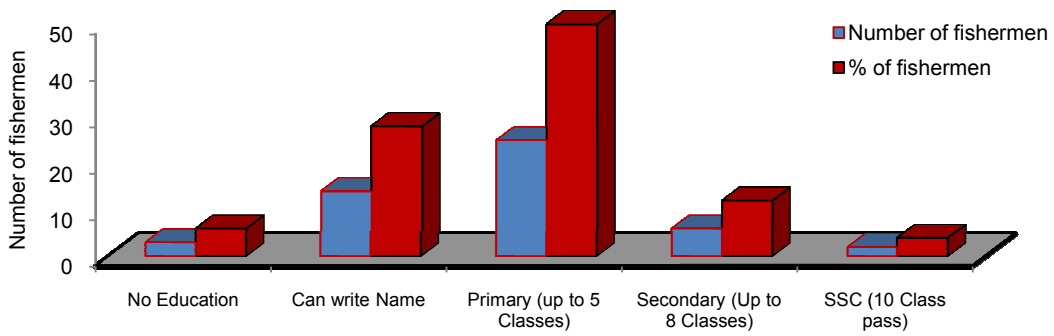

Figure 2 – Educational status of riverine fishermen of the Payra River

In this study, we revealed that 54% fishermen have training on one or more than one related matter, 46% have no training. Hossain (2012) reported that 80% of fishermen, considering all gears were not received any training where as 20% had training experience in the river system of the Purnavaba River.

A family was defined as the total number of persons living together and taking meals from the same house. The family size and composition are related to income. The study reveals that 48% of the fishermen had 2 to 5 persons group, 48% had 6 to 9 persons group and 4% having more than 10 persons group in their families. Haider (2002) recorded the largest family size (6.67 persons) in Cast net fishermen and smallest family size (4.50

persons) in *hogra* fishermen of Doba *beel*. Miah (2004) recorded the largest and the smallest family sizes of Zolkor *beel* fishermen in Cast net (5.67 persons) and in *thela jal* (4.15 persons) respectively.

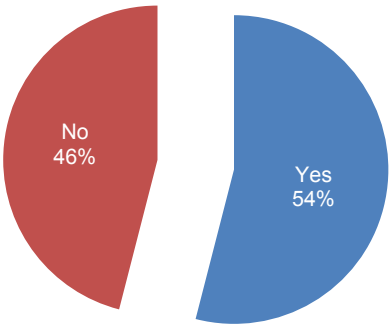

Figure 3 – Receive any training facilities in the riverine fishermen

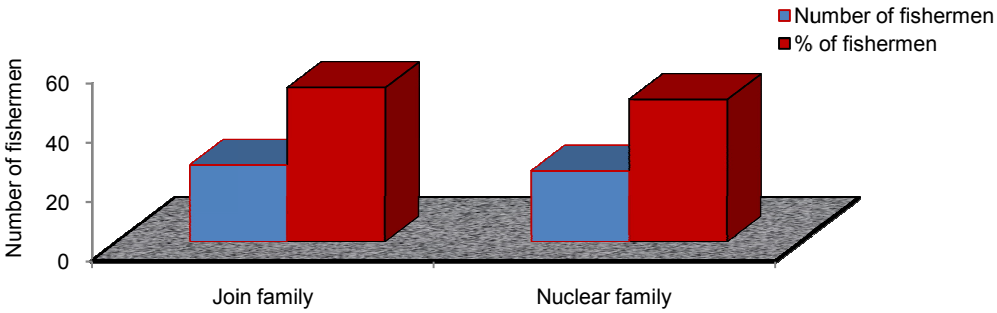

Figure 4 – Family size of riverine fishermen family

In the present study, it was found that majorities (80%) of the fishermen are married and remain 20% of fishermen are unmarried. Hossain (2012) found 70% of the fishermen are married and 30% of fishermen are unmarried.

Natural Capital. It was found that only 28% of fishermen had agricultural land and majority (72%) of fishermen had no agricultural land. Agriculture is the second occupation in most of the fishermen but lack of agricultural land they choose others.

Most of the rural household family used pond water for cooking, bathing, washing clothes. It was found that only 36% of fishermen family had pond. The majority (64%) of fishermen family had no pond they used neighbor's pond water. Sometimes fishermen family used river water for household activities.

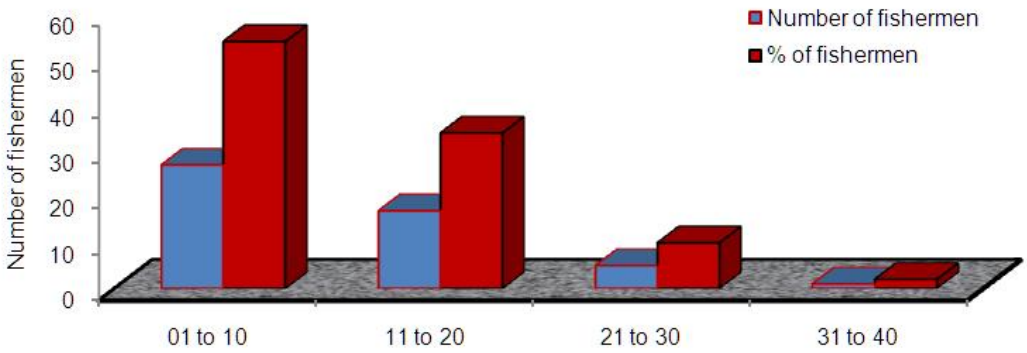

Figure 6 – Homestead status of riverine fishermen of the Payra river

This study found that 54% of the fishermen had 1 to 10 decimal homestead land, 34% had 11 to 20 decimal, 10% had 21 to 30 decimal and only 2% fishermen had 31 to 40 decimal homestead lands for living. Homestead areas are important key measure to identify other source of family income. Women or children rear chicken, duck, got, cattle etc. and support family income.

It was found that 82% of fishermen spend all time for fishing, but 18% of fishermen catching fish in part time. Most of the professional fishermen spend full time to catch fish but subsistence fishermen spend part time for catching fish. Rabbani (2007) observed that 70% of fishermen spend full time and 30% of fishermen catching fish in part-time.

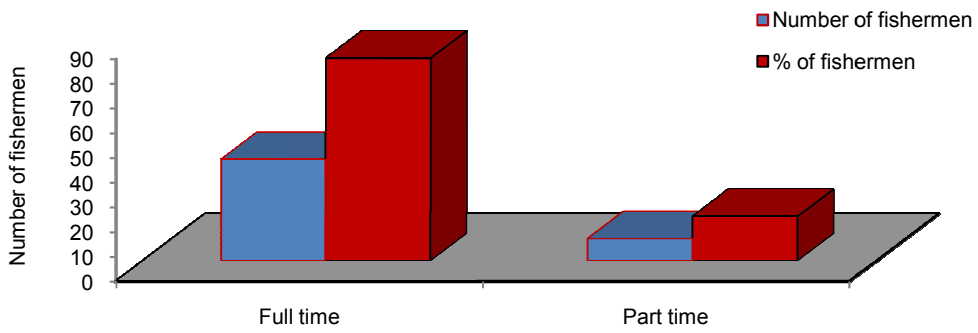

Figure 7 – Fishermen spend time for fishing in the Payra River

Physical capital. Three types of housing conditions were observed with the fishermen of Payra river. About 52% of the fishermen had *kacha* houses which reflect the deplorable and distress condition of the fishing community. Rabbani (2007) revealed that 76.67% of housing structures were *kacha*, 15% were half *semi-pucca* and 8.33% were *pucca*. Ahmed (2002) found that 62% of *kacha* housing structure of farmers in Mymensingh area.

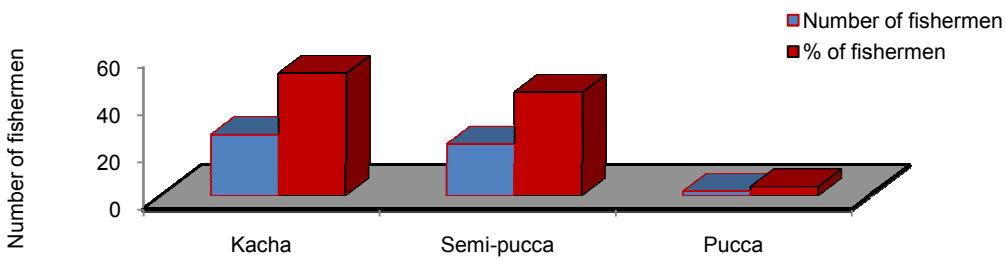

Figure 8 – Housing condition of riverine fishermen

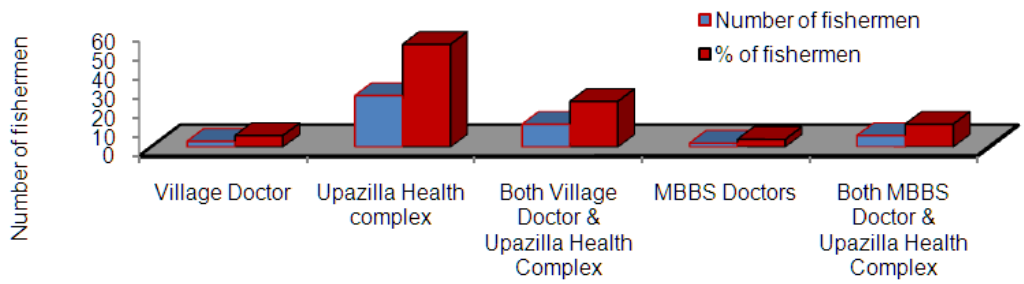

Figure 9 – Health service used by the riverine fishermen of Payra River

This study found that 54% of fishermen were dependent on upazila health complex, while 6% and 24% got health service from the village doctor and both village doctor & upazila health complex respectively. Alam (2006) found in his study that only 42% of the farmers in

the Mithapuqur upazila under the district Rangpur got the opportunities for medical care by MBBS doctor and Upazila health complex while the rest 58% was dependent on village doctor and others.

92% of fishermen used boat to catch fish, but 8% of fishermen operated fishing gears and caught fish without boat. Most of the professional fishermen use boat to catching fish, but subsistence fishermen catch fish without boat. Jewel (2006) observed that 80% of fishermen used boat and 20% of fishermen caught fish without boat.

Financial capital. It was found that majority (80%) of fishermen's main income source is fishing. Service and labor are the main occupation of 4% fishermen. Only 2% fishermen involve in agriculture and business. Rabbani (2007) observed that *Jhaki jal* fishermen earned 22.50% income from fishing and the lowest (11.09%) average monthly income was found from fishing among the *Khora jal* fishermen.

Table 1 – Main source of income in the riverine fishermen

Main income source	Average monthly income (Taka)	% of total
Fishing	10410	19
Agriculture	15000	27
Service	11500	20
Labor	9250	16
Business	10000	18

Other source of income. This study found that 28% fishermen are involved in agriculture as other occupation, 40% fishermen in labor, 8% in business, 2% in service and remained 10% in other occupation. During off season decrease catch rate and low income from fishing, majority of fishermen gave extra service such as other income source to fulfill their family demands.

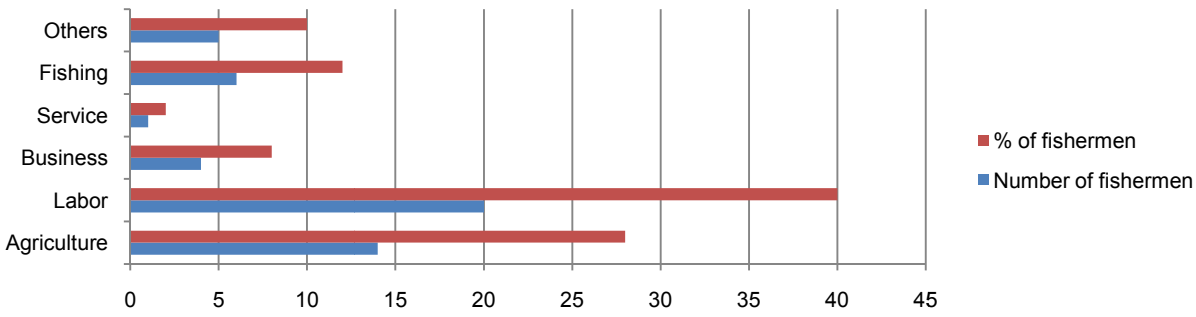

Figure 10 – Other sources of income of the riverine fishermen

Average monthly income. It was found that most of the fishermen had five types of main income source. When fishing is the main occupation, the average monthly income was found to be Tk. 10410.

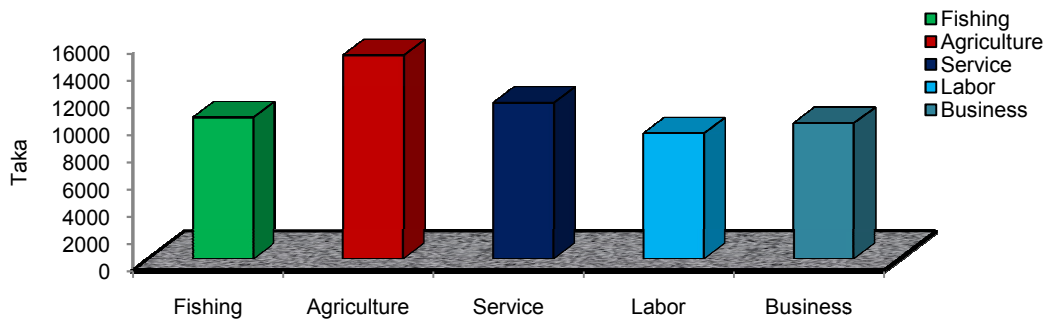

Figure 11 – Average monthly income of the riverine fishermen

When agriculture, service, labor and business were the main occupation the average monthly income were Tk. 15000, 11500, 9250 and 10000 respectively. Hossain (2007) reported that the highest monthly average income was found in the seine net fishermen group and the lowest monthly average income was found in the push net fishermen group in the Mokesh *beel*, Gazipur.

Facilities received. This study revealed that most of the fishermen (about 90%) receive government facilities. Only 10% of fishermen receive NGOs facilities. Hossain (2012) observed that 60% of fishermen received government facilities, 40% of received NGO's facilities.

CONCLUSION

Livelihood statuses of the riverine fishermen of Payra River were not satisfactory. The fishermen were deprived of many facilities. The education level was so poor and the affordability of education among fisherman is almost zero. So, NGO can play a vital role in here to support their education. Though, the Government is taking some important step by providing some sorts of extra providence during the ban season of the fishing but still this area needs more support to create a sustainable development of the fisherman. Moreover, health facilities must be improved in this area by the help of both NGO's and government. However, more innovative and extensive research are required to prepare better data-base information on biodiversity and fisheries with abundance problems aiming to develop practical rules and regulations.

CONFLICT OF INTERESTS

Authors clearly declare that they have no competing interests.

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LOCAL CUSTOM VALUES AS NORTH LOMBOK COASTAL AREA MANAGEMENT

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ABSTRACT
The Indonesian traditional local custom known as the Ulayat is a local community right to manage certain surrounded land or water for marine natural resources management. There is recognition that the existence of customary law in Indonesia, especially concerning the fisheries and marine resources management system, is of the important and strategic value of the national effort to support sustainable marine and fisheries resources management. The aims of this research are: to identify the perceptions and aspirations of society toward Local Custom values and the adherence to the prevailing traditional/customary law, and to identify the extent to which opportunities for Local Custom values empowerment can be preserved and utilized in managing the coastal areas in North Lombok. This research uses a case study method (Yin, 2011) and qualitative analysis method. The sampling method is being collected purposively. The research results showed that the perceptions and aspirations of society toward the Local Custom values (called awig-awig) is still very strong and is still being practiced. Society tends to be more convinced that the law enforcement using customary law is more effective and has a strong deterrent effect because there are clear sanctions and prohibitions. It is due in part to distrust of the formal law, which seems arbitrary in pursuing any prosecution. The Local Custom, tradition, and customary law, as well as traditional institutions in North Lombok Regency, have an opportunity to be preserved and further developed by implementing awig-awig.

KEY WORDS
Local custom value, awig-awig, coastal area, management.

The Indonesian traditional local custom is known as the *Ulayat*[1] rights, in this case, the *ulayat* rights to manage certain surrounded land or water for marine natural resources management (aquatic) (Satria & Adhuri, 2010). This tradition still exists and is practiced by a certain part of members even though there is pressure from modern marine and fisheries management. Some of traditional systems which are still preserved and practiced, e.g. the *Sasi* tradition[2] in Maluku, *Panglima Laot*[3] in Aceh and *Awig-awig*[4] in North Lombok (Wahyudin, 2004)

Moreover, there is recognition that the existence of customary law in Indonesia, especially concerning the fisheries and marine resources management system, is an important and strategic asset for the national effort to support sustainable marine and fisheries resource management (Steebergen, 2016). However, Local Custom values in several regions in Indonesia have recently declined because of the government's policy of developing the coastal areas partially in a top-down manner, which often does not reflect the

[1] *A legal term connoting communal rights of an (ethnic) community to land based on that community's customary law.*
[2] *Conservation system in some regional regency in Indonesia, such as in Maluku, Raja Ampat, etc. or indigenous traditions that supports sustainable.*
[3] *Acehnese Language term which means sea commander.*
[4] *Set of regulations that manages the relationship between human and nature, especially in the coastal and marine areas.*

interests and needs of local society, and its implementation fails to utilize the existing potential resources optimally, including the traditional or Local Custom values (Stanis, 2005). The aims of this research are as follows: a) to identify the perceptions and aspirations of society toward Local Custom values and the adherence to the prevailing traditional/customary law. b) to identify the extent to which opportunities for Local Custom values empowerment can be preserved and utilized in formulating the management of coastal areas.

METHODS OF RESEARCH

The focus area of this research was on North Lombok Regency, Indonesia, consisting of five subdistricts, namely Bayan, Kayangan, Gangga, Tanjung, and Pemenang. The method used in this research was a case study and the data was analyzed qualitatively. A case study is a social science research method concerning an object which is conducted by the local guidelines. The case study is an appropriate strategy only if the researchers have little opportunity to control the events being investigated, and if their research focus is on real life contemporary phenomena, in which the limitations between phenomenon and context do not appear clearly; and in case where multi-source of evidence to be utilized (Yin, 2011). The source of data used in this research consists of primary data and secondary data. The primary data collection process was conducted through interviews with local public figures purposively. The secondary data was obtained from texts related to *awig-awig*.

RESULTS OF STUDY

Based on the history of North Lombok, before the arrival of Islam in the early sixteenth century, there was already a kingdom influenced by Buddhism and Hinduism. One can still see signs of the influence of two kingdoms, Majapahit and Anak Agung Karang Asem.

The history of North Lombok at that time shows that there were already the governmental and decentralization systems known as *Paer Daya*. The *Paer* itself is defined as the one region based on the area, local knowledge, and local custom.

The *mangku-mangku* in the traditional socio-politics customary structure is divided according to the duty, authority, and territory-based authority into three categories of *kemangkuan* territories, namely:

- The people who are responsible for forestry affairs and its management called *Mangku Alas*;
- The people who are responsible for agricultural affairs and its management called *Mangku Gumi*;
- The people who are responsible for the sea affairs and its management called *Mangku Segara*.

The relationship between the *mangku* and the management system showed that there was a pattern of harmonious relationship in managing natural resources by emphasizing sustainable and responsible upstream and downstream management patterns. In this context of sea and fisheries resources management, society in North Lombok at that time managed the existing resources with the wisdom deriving from ancient values and maintained them from generation to generation.

Awig-awig not only regulates about management but also the sanctions for perpetrators of vandalism. For instance (Hilmawan, 2012):

(1) If it is found and proved that suspects have used blast fishing and potassium cyanide fishing or fishing with any other toxic materials, the suspects are to be arrested by a group of fishermen and then ordered by the authorities in the respective sub-district areas to sign an affidavit not to repeat such actions or face the maximum financial penalty of Rp 10,000,000.00 as well as to release the catch back to its habitat. (For an example of affidavit, see appendix)

(2) If the suspects commit the same crime for the second time, a group of fishermen will arrest the suspects and then destroy or burn their equipment.

(3) If the suspects commit the same crime for the third time and it is proved, the group of fishermen will beat the suspects to death.

Awig-awig regulates both the prohibitions and sanctions for the fisheries resources and for fishermen themselves. Some examples of prohibitions include: (1) It is prohibited to go fishing on Fridays because the day is deemed a holy day; (2) if one of the fishermen dies, that day is prohibited to fishing; (3) it is prohibited to bring home the fish accompanied by the nets, the fabrics or the sarongs.

To maintain *awig-awig*, an organization named Fishermen Dialogue Institute of North Lombok (LMNLU) that is an affiliation of fishermen group of North Lombok, has been formed (Solihin *et al*, 2007). In doing their duties, LMNLU has created a community group of supervisors (*Pokmaswas*) in each district in the North Lombok Regency by involving fishermen (LMNLU, 2011). The duty of *Pokmaswas* group itself is to supervise and enforce *awig-awig*. Figure 1 shows the violations committed by suspects of *awig-awig* in accordance with the point 2 regarding the sanctions.

Figure 1. Combustion gear conducting destructive fishing

Society Perceptions of Local Custom. Based on researcher's observations and through in-depth interviews, both with individuals and groups, we obtained a description of a society in coastal areas that showed that Local Custom values, especially concerning the utilization and management of marine and fishery resources, was still an important part of life (Adrianto et al., 2009).

Social Aspirations toward Local Custom. The coastal societies and the fishermen involving in this research had aspirations, concepts, ideas and strong desires to preserve their own Local Custom, customs, and customary law. This aspiration appeared due to the existence of society awareness of the importance of Local Custom as the moral guidance aspects in managing the harmonious relationship between humans and the existing natural resources in their surrounding areas.

Moreover, the society in the research location was still pessimistic and skeptical about the implementation of the formal law, including enforcement officers. Society's response toward the existing and prevailing of positive laws was very low. It was due to the fact that the perpetrators of environmental vandalism were subjected to the unclear investigation and low-deterrent effect punishments.

Opportunities for Local Custom Empowerment. Local custom, traditions, and customary law and traditional institutions in North Lombok Regency could be preserved and nourished by implementing *awig-awig* as basic regulation of fishery resources and marine management despite the formal law, enabling them to regulate the life and create institutions, norms and the rules related to the coastal and marine resources management.

DISCUSSION OF RESULTS

North Lombok's societies not only recognize the territory distribution but also recognize the existence of local regulations which manage the relationships between human and human, society and society, society and the surrounding nature, human and God, or in short, this regulation is called *awig-awig* or customary law.

In order to fulfill the local regulations, it is also known that there are power and authority distributions into three elements, namely **(**1) all matters related to *Paer* village government affairs are controlled by the *Pemusungan*; (2) all matters related to religious affairs are controlled and administered by *Pengulu or Kyai*; (3) all matters related to customs are controlled and administered by *Mangku*.

The *Awig-awig* prevailing in North Lombok regulates the offshore physical environmental management, such as destructive fishing, waste, coral reef destruction, rare sea biota catches, and zoning distribution (*Paer*) (Adrianto et al., 2009). Under the rules of the offshore physical environmental management mentioned above, there are prohibitions and sanctions that are stipulated in the agreed *awig-awig* (Hilmawan, 2012). The zoning distribution*/Paer* itself is divided into four zones: (1) Zone A is a conservation zone that covers the Gili Indah area and other existing tourism areas in North Lombok; (2) Zone B is the fishing zone using traditional fishing gear that covers the entire area of North Lombok; (3) Zone C is the aquaculture zone preserved for things such as seaweed and pearls which are located in the villages of Sorong Jukung, Karang Jurang, Papak Indah, Penyambuan, and Medana; (4) Zone D is the fishing zone using traditional fishing gear that its at least 1km offshore. By distributing the clear zones, the conflicts that often occur between the fishermen related to the fishing areas can be minimized (Muhyin, 2010).

In the context of the coastal zone management, the role of the traditional institutions along with Local Custom, tradition and customary law had clear strategic opportunities to be exploited in the development efforts toward local people and traditional fishermen. This aspect could be used as means to connect the government's programs and activities and the needs of society. Thus any program that had planned by the government was believed to be implemented precisely to achieve the targets so that impact on the success and sustainability of the program would be maximized. It was based on the premise that whatever the program was, it must fit the needs of local people without contradicted to their local customs in order to develop socio-cultural aspects of the local area itself.

The researcher suggest to keep the local custom value can be preserved and practiced in managing the coastal areas so that make sure the existence and sustainable aquatic ecosystems. The local government also could keeps socializing the coastal areas management to the societies and fishermen by putting onward the local wisdom values. The existence of local people and its local wisdom within needs to be respected and appreciated by the local government as the ancient cultural heritage from generation to generation and to be preserved by releasing a law on local regulations about the local wisdom values so make clear and can minimize the conflicting social which occurs frequently.

This study was revealed the perceptions and aspirations of society toward Local Custom Values is still very strong and is preserved because these values can manage the relationship between humans and the environment so that there will be equilibrium. Local Custom, tradition and customary law as well as customary institutions in North Lombok Regency have the opportunity to be preserved and further developed by implementing *awig-awig* as the basic regulation of fishery and marine resources management, despite the use of formal law, so that they able to regulate the local manner and create institutions, norms, and rules related to coastal and marine resources management.

CONCLUSION

The perceptions and aspirations of society toward Local Custom Values are still very strong and are preserved because these values can manage the relationship between humans and the environment so that there will be equilibrium.

Local Custom, tradition and customary law as well as customary institutions in North Lombok Regency have the opportunity to be preserved and further developed by implementing *awig-awig* as the basic regulation of fishery and marine resources management, despite the use of formal law, so that they able to regulate the local manner and create institutions, norms, and rules related to coastal and marine resources management.

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PROBLEMS AND PROSPECTS OF THE SHIPBUILDING AND SHIP REPAIR INDUSTRY DEVELOPMENT IN THE RUSSIAN FAR EAST: THE HISTORICAL ASPECT

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ABSTRACT
The article is devoted to the analysis of problems and prospects for the shipbuilding and ship repair industries development in the Far Eastern Federal District, in general, and Primorsky Krai, in particular. Quality of shipbuilding development reflects scientific and technical development level of the country. During all historical periods the shipbuilding of Russia depended on foreign technologies and ship equipment import. Since the beginning of the industry the state has been the large owner of assets, defining a strategy of development and carrying out the control functions. In pre-revolutionary Russia private shipbuilding companies had been founded with participation of banking capital including foreign capital. During the Soviet period the state administration reforms had been mainly directed on changing of institutional subordination of the industry enterprises. Science the beginning of 90-s the governance system destruction led to crisis in the industry. So, between ship repair and the shipbuilding industry, production and information communications are not developed. This fact constrains the structure improvement of these industries, the joint development of their specialization and cooperation. The science serving shipbuilding and ship repair is also disunited - the scientific forces of the shipbuilding industry in the region were organized within their industry and have weak links with the corresponding repair organizations. Within the last several years the new governmental paradigm in the industry is being created. Today, there are a number of problems in the industry that require government intervention and private investment.

KEY WORDS
Shipbuilding, ship repair industries, gross regional product (GRP), international competition, centralized planning, support measures, world market.

Shipbuilding largely determines the national security of the state in all maritime activities spheres in Russia's Far East, including defense, transport, food, energy and technology. Shipbuilding has a multiplier effect, affecting the technology and production development in related industries and services.

The shipbuilding industry, being one of the most important branches of the national economy and possessing scientific, technical and production potential, has a decisive influence on many related sectors, on the economy of the country as a whole, on its defense capability and political position in the world. The state of shipbuilding reflects the level of scientific and technical potential of the country, accumulating in its products the achievements of metallurgy, engineering, electronics and advanced technologies. The problem of ensuring the marine shipbuilding competitive development in the Far Eastern Federal District (DFO) is now becoming particularly relevant. For the Far East, marine transport, shipbuilding and related economic activities are the priority areas of the economy. So, only nearly 20% of the gross regional product (GRP) of the Far Eastern Federal District accounts transports and logistics sector share only [1].

The shipbuilding industry has not been able to adapt to the new realities and the mechanisms and strategy question for the industry long-term development remains unresolved over the decades of Russia existence in a market economy. At the same time, being the most important stock-forming industry for all economies with marine specialization, shipbuilding and ship repair not only determine the level of technical progress in the country, but also the growth rate of the national economy.

Currently, every fifth shipbuilding and ship repair company of the country is located in the Far Eastern Federal District, and Far Eastern enterprises account for more than 25% of the book value of fixed assets of this industry. At the same time, attention is drawn to the tendency of the lagging behind the Far Eastern shipbuilding and ship repair from the average Russian growth rates of production scales, which has been outlined in recent [1].

Main part. The shipbuilding development in USSR was one of the main segments of heavy industry, and strategically important. According to the directives of the Ministry of the Merchant Marine of the country, no less than half of the foreign trade cargoes had to service of national carrier's ships. Moreover, the fleet not only provided for the interests of trade, but also fulfilled international tasks (like delivering cargo to developing allied countries). The USSR developed its own industry in every possible way, as it could not afford dependence on foreign shipbuilders, who for political reasons could at any time refuse to cooperate with the country [2].

With the collapse of the Soviet Union, interior demand fell to almost zero, part of shipyards remained in the Baltic Countries and Ukraine, many ships were sold, and factories went bankrupt [3]. With the favorable oil situation beginning in the 2000s, the surviving domestic carriers «Sovkomflot», «Novoship» (which later became a subsidiary of «Sovkomflot»), the Primorsk Shipping Company and the Far Eastern Shipping Company, the question arose of replenishing the ship's fleet under the growing base, first of all - oil, oil products, grain, metals and containers.

The industry development strategy has been discussed for a long time in the government, until finally it became clear that without the unification of separate enterprises under one roof, the task of revival will not be solved. In 2007, the decree of the Russian president on the creation of the United Shipbuilding Corporation (USC) was signed. She received special powers from the authorities in the matter of asset consolidation, as well as support in the form of government-issued private orders to carriers to support orders for the company being created. Dmitry Medvedev being president (now vice minister) at one of the meetings devoted to the modernization of the country, listed several industries that, in his opinion, should become points of growth. They include production of military and civilian vessels [4].

Main feature of the world shipbuilding development current stage is the leading countries transition to a strategy based primarily on the generation, dissemination and use of the most advanced knowledge and technologies. Unique skills and abilities, ability to adapt them to constantly changing conditions of activity, high qualification become the leading production resource. Intensification of the shipbuilding production and use new scientific and technical results predetermined a sharp reduction of the innovation cycle, acceleration of the rates renewal of products and technologies. The modern experience in management of shipbuilding and ship repair in the framework of large corporations is based on close cooperation between ship repair and related shipbuilding enterprises. Manufacturers observe their vessels practically during their entire service life.

In Russia, the forms of management of shipbuilding and ship repair production were largely determined by both political and natural factors. Historically, in the Russian Far East, activities related to the reproduction of the fleet (metal vessels) began not with shipbuilding, but with repair enterprises. Ship repair production in the Far East appeared in the late nineteenth century. In the first years of its development, ship-repairing production was developing, mainly, to ensure the repair of ships of the Siberian Flotilla (later - the Russian Pacific Navy). The first ship-repair shop with a smithy was already laid in the year of foundation (in 1860) of Vladivostok military post. In the 1970s, on the bases of several ship-repair workshops, the Far Eastern mechanical breech-making plant (now «Dalzavod») began to be created. In the 90's in Vladivostok there were workshops for the repair of civilian vessels, eventually turned into a shipyard of the Voluntary Fleet (later plant N 2 «Narkomflot»). In 1922, only two of these factories in Vladivostok represented the shipyard base of the Far East [5].

Nowadays, the Russian Far East shipbuilding industry is a set of enterprises and organizations working in the shipbuilding and ship repair sub-sectors, shipbuilding and

electrical engineering, and marine instrumentation. Shipbuilding mainly determines the state national security in all spheres of maritime activities in Russia's Far East, including defense, transport, food, energy and technology. Shipbuilding has a multiplier effect, influence on the development of technology and production in related industries and services.

The Far Eastern shipbuilding industry in the Soviet period, like the entire state economy, functioned in fairly specific conditions of state administration and protectionism. In these conditions, the industry practically lacked internal incentives for systemic structural and innovative transformations. The functioning of the industrial enterprises of the Far East was characterized by the underdevelopment of pro-industrial and information ties, which hampered the improvement of the structure, development of their specialization and cooperation, and scientific support for the industry. In particular, ship-repair enterprises, which often existed as auxiliary production of certain shipowners, lagged far behind in technical development from shipbuilding enterprises of the corresponding specialization. As early as the 1970s and 1980s, attempts were made to introduce schemes of interdepartmental specialization and co-operation of shipbuilding and ship repair enterprises, coordination of research, design and technological works. However, these schemes, for the main part, were not implemented due to the prevalence of departmental interests [6]. In the period of transition to the market, the problems of shipbuilding and ship repair in the Far East were especially acute. The industry's stagnation factors were: the state's refusal from protectionism; lack of market competitive advantages; strengthening the impact of rising costs; liberalization of the external economic sphere; the international competition strengthening in this connection.

Table 1 – Characteristics of national shipbuilding support measures

Country	Shipbuilding dotation	Technical re-equipment support	Tax and customs privileges	Preferential lending	R&D assistance
Germany	+	+	+	OECD conditions: loan - up to 80% The loan term is 10 years, interest rates are not more than 6% Tax benefits to the German superintendents 300 million euros	About 10% of the annual turnover of the shipbuilding enterprises are directed to R&D.
Italy	+	+	+		
Netherlands	+	+	+		
Finland	+	+	+		
USA	+	+	-	Loan - 87, 5% of the vessel price Term - 25 years	Annual deductions for defense research and development
South Korea	+	+	+	OECD conditions, the period is extended to 13 years	Up to 50% the of research and development cost in the area of shipbuilding - the state own. In Korea, about 250 million dollars a year
Japan	+	+	-	Loan - 60-80% of the vessel value Term 10-15 years at 5-8% per annum	
China	+	+	+	It is made by the export-import bank of the country	R&D is 100% financed by the state

Source: compiled by the author [7].

Analysis of foreign countries experience shows that the creation of competitive advantages in the shipbuilding industry is largely ensured by the state, especially at the stages of initial development or recovery from the crisis periods in the country's economy. Over the past decades, in every country, comprehensive programs have been implemented to support the shipbuilding industry. The main measures for state support of national shipbuilding are reflected in Table 1.

The lack of competition and shipbuilding products monopolization did not contribute to the development of new ship designs, the use of new technical solutions for their creation, and the creation and application of new, modern equipment-compliant equipment. After abandoning centralized planning and state budget financing, in connection with the transition to a market economy, domestic shipbuilding enterprises have faced the reality: the industry is not simply uncompetitive in the world market, but cannot even provide domestic demand for its products. The product policy shortcomings, the unbalanced structure of orders, the suboptimal enterprises production structure and the insufficient utilization of production capacities, as well as the qualified personnel shortage, were the main reasons for the unsatisfactory state of the industry.

Russian shipbuilding development programs, in general, limited by organizational measures, while more specific and effective instruments for increasing competitiveness should be sought.

Calculations show that the Republic of Korea and China have become quite a serious factor, which prevents the opportunities of the Far Eastern shipbuilding and ship repair enterprises to meet the needs of Russian enterprises. For example, the negative impact on the shipbuilding industry of foreign economic competition manifested itself in the almost complete cessation of production in the Far East of ships for the fishing industry. Shipbuilding enterprises that previously had a regional sales market reduced production tenfold, in particular for the following reason: relatively high production efficiency in the fish industry, with the shadow economy predominance in it and the possibility of leaving currency for abroad, predetermined the preference in large-scale purchases abroad of fishing vessels [8]. The decrease in capacity utilization has further strengthened the impact of the welfare factor. Almost all Far Eastern enterprises were in a difficult financial situation. And if the pro-productive potential in the 90s was preserved to some extent, the staffing problem was aggravated to the limit. This was affected by the low prestige of shipbuilders and ship repairmen labor for youth and the destruction of the workers preparation system in the basic specialties. In such economic conditions, all Far Eastern shipbuilding and ship repair enterprises worked.

In the way, the fundamental reasons determined the general trend of stagnation in the industry during the 90s and mostly 2000s were: lack of market advantages for each enterprises in comparison with the same ones located in other regions of the country and abroad; lack of organizational and financial prerequisites for the introduction of innovations in the industry enterprises as a way of obtaining rent for the novelty of products and its science-intensive nature; complexity of the formation of «new» management in the conditions of a mass change of the owners of enterprises.

In 2006-2008, a slow recovery of production began at the long-shipyard shipbuilding enterprises that retained their production base, which could find a niche in the domestic and foreign markets, which received state-of-the-art orders from the state. Institutional basis was the adoption of state program acts [9]. The «Strategy for the development of the shipbuilding industry in the period up to 2020 and for the future» [10] and the Federal Target Program «Development of civil marine equipment» for 2009-2016 were developed and approved [11].

By now, eight integrated structures have been created in the industry. The main one is OJSC United Shipbuilding Corporation, which included almost all leading design bureaus and largest plants [12]. The building of the State Scientific Center of the Russian Federation is being finalized on the basis of FSUE CRI named by acad. A.N. Krylov, which is the leading scientific organization of the industry and has a status that is determined by the scientific qualifications of the scientists and specialists of the institute that have established their own scientific schools universally recognized at the world level, as well as the technical state and uniqueness of the experimental base. The main experimental base in the field of marine technologies is concentrated in it.

Order of the Ministry of Industry and Trade of Russia of August 29, 2008, No. 112 approved the «Comprehensive Action Plan for the Implementation of the Strategy for the Development of the Shipbuilding Industry for the Period to 2020 and for the Future». The scientific and industrial potential development and the scientific reserve creation for the

revival of the Russian shipbuilding industry was launched. This made it possible to significantly improve the situation of the industry and reduce the backlog rate in scientific and technological development from the leading maritime powers. The state program of the Russian Federation «Development of shipbuilding for 2013-2030» has been adopted.

Several years ago, the project for the formation of the Far Eastern Center for Shipbuilding and Ship Repair (DTSS) is being implemented. Now it is a subsidiary of the state holding United Shipbuilding Corporation (USC), the decree on the formation of which was signed by the Russian president in March 2007. DTSS unites the largest profile enterprises of the region and includes shipbuilding and ship repair plants in the Far Eastern Federal District, including Kamchatka, Khabarovsk and Primorsky Krai. This enterprise solves the problems of state importance, related to the preservation and development of the scientific and industrial potential of the defense industry complex, and directs its efforts to concentrate intellectual, industrial and financial resources in the implementation of projects for the construction of ships and marine equipment for the development of the Russian shelf. It consists of the following 8 shipbuilding and ship repair enterprises that ensure the state interests of the fleet in the Far East:

1. JSC «Ship repair center «Dalzavod», Vladivostok. The main activity of the enterprise is ship repair and other related works for the Pacific Fleet.
2. OOO Zvezda - DSME, Vladivostok. The enterprise was created to implement the project of building a shipyard in the southern part of Bolshoy Kamen, Primorsky Krai.
3. OJSC Vostok-Raffles, Vladivostok, a joint venture with the Singapore company CIMC Raffles Offshore (Singapore).
4. OJSC «92 Orders of the Red Banner of Labor ship repair plant», Vla-divostok. The main activity of the plant is the repair of military ships of the Pacific Fleet.
5. Open Society «Far East factory «The Star», the Big Stone of Primorye Territory. It is the leading company for the repair of submarines of the Pacific Fleet and the only one in the Far East that specializes in the repair, re-equipment and modernization of ships of nuclear submarine missile carriers.
6. JSC «Khabarovsk Shipbuilding Plant», Khabarovsk. The enterprise is one of the largest shipbuilding enterprises of the Far East. OAO KhSZ specializes in the construction of ships and boats, including those with dynamic support principles, for the Navy and vessels of various civilian classes.
7. OJSC Amur Shipyard, Komsomolsk-on-Amur, Khabarovsk Territory. This is a full-fledged shipbuilding enterprise that possesses the necessary production capacities and technologies for the construction of ships and ships of military and civilian use with a displacement of up to 25 thousand tons.
8. OJSC «North-Eastern Repair Center», Vilyuchinsk, Kamchatka Territory. The enterprise specializes in the repair and utilization of weapons and equipment of the Navy in the northeast of Russia.

In 2015, the United Shipbuilding Corporation transferred a controlling stake in the Far East Shipbuilding and Ship Repair Center to the joint venture Contemporary Shipbuilding Technology (CTC), which on an equal footing belongs to Rosneft and Gazprombank [13].

In general, it can be stated that this holding is focused on fulfilling the tasks of the system of increasing market competitiveness far from the organization. It would be more expedient to include all enterprises of the shipbuilding industry of the Far Eastern region in the production complex, which is prioritized by the task of ensuring national and international competitiveness, not only in the military, but primarily in civil shipbuilding and ship repair. The figure shows a scheme for the formation of a ship building and ship repairing production complex that unites specialized enterprises in the production of specific types of products (vessels of a certain production purpose) and technological specialization [5].

It should be noted that even taking into account the implementation of the measures of the said state programs, it is only that when achieving an acceptable competitiveness of shipbuilding, targeted and integrated planning and management of development in the industry in the ten-year perspective, it is possible to solve the problem only by returning growing customers in the country. To date, only the first steps have been taken to revitalize

civil shipbuilding in the Far East: the launch of the production of medium-class fishing vessels, ice-resistant platforms, waterflooding modules for oil and gas on the Sakhalin shelf, construction of double-hulled tankers of increased strength, package carriers and timber carriers, ships for transporting chemicals and cleaning contaminated water.

According to one of the most authoritative experts on the problems of competitiveness, M. Porter, the main unit of international competition at the present stage is not the country, but the industry. The specificity of various industries does not imply the universalization of the format of competition, which leads to the multiplicity of its forms. But four classical elements still remain the common determinants national industry success in the international competition: 1) strategic flexibility and market advantages of the industry companies; 2) the presence of a developed and differentiated demand from the consumers of the industry; 3) the existence of developed supporting supplier industries; 4) the quality of the economic environment, largely dependent on the regulatory role of the state. Usually these conditions are realized systematically within the framework of an industry complex (or cluster). Cluster approach significantly affects the strategies of companies and own-to economic policy and the quality of the economic environment [14].

The experience of many countries shows that the creation of competitive advantages in shipbuilding is provided largely by the state, especially at the stages of initial development or recovery from crisis periods. Since the main competition for Far Eastern shipbuilding enterprises is made by the profile enterprises of the PRC and the Republic of Korea, we will name some measures of state support in these countries. During the last decades in each country complex programs of stimulating the shipbuilding industry are being implemented. Specific forms and mechanisms for supporting shipbuilding include the following: participation in the management of the restructuring and modernization of the fleet (Republic of Korea); regulation of the price of steel and ship equipment (PRC); state guarantees for loans to shipbuilders (PRC, Republic of Korea); reduction or cancellation of customs duties on the import of ship equipment (China); concessional lending up to 80% of the value of the vessel for 10-13 years, including a grace period equal to 1/3 of the repayment time of the loan in foreign currency (Republic of Korea); customs duties on imported ship equipment (PRC) were abolished [7].

Nevertheless, the services that Korean and Chinese shipbuilders offer to international consumers are more of a set of values of the differentiation factor, rather than minimizing costs. These factors are often more important for the owners, since they allow them to reduce their direct costs. Such factors of differentiation include: reduction of the idle time of vessels, necessary and sufficient quality of work, reduction of the risk of costs for repairing the marriage, reduction of the need for input control, flexible financial terms of payments and settlements. The listed advantages of differentiation, as a rule, exceed, as a rule, the advantages associated with the cost of services, although the comparative cost of ship building and ship repairing services can not but matter to the shipowners. Nevertheless, in the implementation of the re-shaping of the Far Eastern shipbuilding complex and systemic links in the industry, it should be more focused not on minimizing costs, but on the opportunities for providing customers with a differentiated and high-quality service.

The last few years have been characterized by a large number of events aimed at developing shipbuilding in Russia and increasing its competitiveness. First, the «Strategy for the Development of the Shipbuilding Industry for the Period to 2020 and Further Prospects» was approved. The main objective of this strategy was to create a new competitive image of the shipbuilding industry based on the scientific and technical potential development, production capacities optimization, modernization and technical re-equipment, perfection of the regulatory framework to fully meet the needs of the state and business in modern shipbuilding products.

Secondly, «The Federal Program for the Development of Civilian Marine Equipment for the period 2009-2016» was prepared and approved, aimed at developing domestic scientific, technical and project potential and creating conditions for the production of competitive civil marine equipment that would fundamentally change the strategic competitive position civil shipbuilding of Russia and the conquest of the global sales market significant share by 2016.

In total, the Program provides for financing in the amount of about 140 billion rubles, including 90 billion rubles from the federal budget, 50 billion rubles from extra-budgetary sources.

Thirdly, in accordance with the Presidential Decree of March 21, 2007, «United Shipbuilding Corporation» was formed, which includes three territorial sub-holdings (western, northern and eastern) [12]. «Far East Center for Shipbuilding and Shiprepairing» is a subsidiary of the state holding «United Shipbuilding Corporation» (USC), whose edict was signed by the Russian president on March 21, 2007. DTSS unites the largest region profile enterprises and includes shipbuilding and ship-repair factories in the Far Eastern Federal District, including Kamchatka, Khabarovsk and Primorye.

Conclusion. Unfortunately, Russian shipbuilding development programs are still limited to organizational measures, although more specific tools are needed to increase the competitiveness of the industry. With a difference in the scale, forms and methods of supporting shipbuilding, many of the components are identical: direct subsidization of the construction of ships, provision of facilitated conditions for lending and tax relief, as well as financial assistance in the modernization and restructuring of shipyards, R&D, state orders for the construction of civil vessels at national shipyards, cancellation of debts, and so on. The main purpose is to enable national enterprises to compete successfully with foreign companies at the expense of a relatively low level of prices for built vessels. In general, it can be concluded that in the context of the international competitiveness of the shipbuilding industry of the Russian Far East, in order to form and develop market competitive advantages of regional enterprises, more complex and concrete measures are needed both at the level of state support of the sector (at the macro level) and at level of the industry complex (at the micro level).

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EFFECTIVENESS OF HUANGLONGBING VECTOR (DIAPHORINA CITRI KUWAYAMA) CONTROL IN CITRUS GROWER GROUP BASED IN SAMBAS REGENCY OF WEST KALIMANTAN, INDONESIA

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ABSTRACT
The purpose of this study was to determine the effectiveness of Huanglongbing vector control based on Citrus Grower Group recommendation. Studies have been carried out in 2010 in Tebas Sungai village, Sambas district, with 11 tangerine groves owned by growers in the Citrus grower Association of Sambas district. The tangerine grove that been used are, one grower's orchard as a demonstration plot in a particular citrus grower group (orchard I); five other citrus orchards with different ownership at the same citrus grower Group (orchard II), as well as five other citrus orchard with different ownership which each of them spreads over five different citrus grower groups outside the farm demonstration plots (orchard III). The recommendation technology for controlling Huanglongbing vector which applied in this experiment, included bark painting by systemic insecticide of imidacloprid for two each 1.5-month and spray using contact insecticide with dimethoate to the plant crown which application time been alternated after bark painting application. The effectiveness of technology implementation is measured by a decrease psyllid populations found in citrus samples in adult stage, nymphs and eggs that were observed at regular intervals every two weeks during the flushing to the 14th week after the first treatment. The results showed that recommended treatment technology were absolutely proven to reduce Huanglongbing vector population in significant, namely in the orchard I, II, and III respectively at 95.3%, 84.7%, and 72% for stage adult; 97.3 %, 80%, and 100% for stage nymphs; and 98.5%, 100% and 100% for the egg stage.

KEY WORDS
Citrus, Huanglongbing, control, citrus grower group.

The sustainability of citrus agro business in Sambas district, West Kalimantan, Indonesia, which is an important center of citrus production in Indonesia had faced serious threats because of the Citrus vein phloem disease Degeneration (CVPD) international named of Huanglongbing (HLB). In 2009, Citrus Center, located in Terbas-Sambas reported at least 30% of the citrus crop in Sambas district has been infected with this deadly disease. The slow response from the local government to against any offensive of HLB disease made the citrus trees condition getting worse and causing many citrus trees dead. Basically, in 2007 Research Institute for Citrus and Subtropical Fruits reported that some citrus trees in Sambas district positively infected by HLB, found a lot of its vector, psyllids of *D.citri* that positively some of them were detected contained of HLB pathogens (Supriyanto, et al., 2007).

HLB pathogen is *Canditatus* Liberibacter asiaticum (Jagoueix et al. 1996; Hocquellet et al. 1999) which can be transmitted by an insect namely *Diaphorina citri* and through propagating method which the buds used had been infected by HLB. To avoid increasing the

amount of loss, the HLB disease control measures should be done properly including its vectors. According to the Local Extension of Agriculture and Livestock at Sambas, in 2007, the number of citrus trees in this area was 11,820.95 ha and in 2010 become 9, 364.38 ha, It means the death trees caused by HLB reached had around 2,456.57 ha or 20.8% equivalent of 50.000 tons of fruit coasted of Rp. 150 billion or US$ 156,250. The loss caused by HLB disease affected decreasing of citrus production, growers income, employment in citrus agro business (esp. orchard labors, crop carrier labor, collectors fruit labor, basket fruit makers, etc), economic, and potentially able to erase Sambas image as major citrus producer in Indonesia.

HLB disease can be controlled by applying Integrated Health Management for Citrus Orchard (IMCHO) (Supriyanto, 2008; Supriyanto, et al., 1999,) consisting of five technology component which must be applied correctly and simultaneously, ie (1). By using budded trees labeled (Supriyanto and Whittle 1992; Supriyanto et al., 1998; (2). HLB effective vector control (Nurhadi and Whittle, 1998; Wuryanti et al., 2004; Dwiastuti et al., 2004); (3). Eradicates HLB disease plants (Dwiastuti et al., 2003), (4). An optimal plant maintenances, and (5). Consolidating application of those technology components in the production centers (Supriyanto, 2008). The existing technology component must be improved according to the result of technology innovation which fit with the specific conditions in the target location. HLB vector control repair by using its natural enemies, and intercropping with guava (Dwiastuti et al., 2007; Wuryantini and Endarto, 2008; Pustika, et al., 2008).

In general, citrus growers joined to citrus grower groups which had orchards adjacent to each other. This citrus grower groups usually consist of 20-30 growers, and the adjacent citrus grower groups joined to become clustered citrus grower groups, and later after well developed, they will formulate Citrus Agro business Association. Although it has not been tough, farmer institution is expected to increase cohesiveness and togetherness citrus farmers in HLB disease control, especially in the application of IMCHO technology components. The understanding of HLB disease control and its measures for citrus grower group members and assisting them how to apply the recommended technology could increase the effectiveness of HLB disease control especially for its vector.

METHODS OF RESEARCH

This study was done in 2010-2011 at the village of Tebas Sungai, district of Tebas, Sambas regency in West Kalimantan, Indonesia. This district was the most important citrus area in Sambas in term of the citrus tree number which was almost 50% of total population in Sambas around 11,000 ha, and around 26.8 % of trees were infected by HLB disease with a lot number of *D.citri* found. The study was conducted in six citrus grower groups who were the members of clustered citrus grower groups namely Mekar Bersatu. The treatment of recommend technology oof HLB vector control were implemented in 11 orchards which divided into 3 groups, following: (1). Orchard I, it consisted of one selected farmer's orchard owned by Zaini with 1 ha large located in one of the farmer groups, namely Chandra Kencana, (2). Orchard II, composed of 5 orchards with different citrus growers ownership which on the same of citrus grower groups of Chandra Kirana, and (3). Orchard III, composed of 5 orchards with different ownership, and each separated in 5 other citrus grower groups but it still be in the clustered citrus grower group of Mekar Bersatu. Those were Kencana Chandra, Chandra Makmur, Chandra Karya, Ilham Bersatu I and Ilham Bersatu II. All citrus grower groups used in this study were located neighbored each other.

Recommended technology of controlling HLB vector of *D.citri* applied were bark painting used concentrated systemic insecticide contain of an active ingredient of imidacloprid without diluted in 2 times each 1.5 months interval with volume corresponding to trunk diameter was about 5-10 cc (Dwiastuti et al., 2004). In addition, it was also sprayed by contact insecticide with dimethoate active ingredient using recommended doses of 2cc/l (Wuryantini et al, 2004). Time application was depending on the present of *D.citri* after first bark painting and before the second one. Bark painting were applied at week 0th and 6th while trunks while spraying by a contact insecticide applied at weeks 4th and 10th .

In Orchard I, HLB vector control technology was applied completely to all 500 trees followed by fertilizing of compose of Petrotek 25 kg / tree, 375 gram of NPK 15-15-15, 375 gram of urea, 405 gram of KCl, foliar spraying, pruning, weeding and mulching, and drainage maintenance. On the citrus trees in orchard II, the owners were assisted to apply bark painting and spraying for HLB vector control and others like applied on orchard I but only on 25 trees of 70-135 tree growers belonged. The trees remain hopefully were continuing conducted and participated by citrus growers by themselves because they have understood how to control the HLB vectors and HLB disease. For orchard III, the citrus growers were just given all the maintenances material needed for 25 trees and let they applied the recommended technology based on their understanding for controlling the vectors of HLB and HLB disease.

Citrus growers participated in this research had joined a training namely SL-PHT or Citrus Field School of Integrated Pest Management with 12 times two week meetings of citrus orchard management stressing on HLB vector control. The citrus growers also had additional counseling by Province Assessment Institute for Agricultural Technology, local field extension and field pest observers staffs in order to emphasis how to control HLB disease and the vector of HLB disease (Subarna, Trisna, A. Ruswandi, dan Darojat. 2007). It was also the role of citrus grower groups to implemented properly of controlling this deadly disease-transmitting insects. Orchard I received completely recommended technology were used as demo plot and for practical purposed of field school. Effectiveness of technology implementation measured by reduction of *D.citri* of imago stage, nymphs and eggs on sample trees. The number of plants sampled were 25 trees set diagonally. The population of psyllids of adults stage, nymphs and eggs were observed periodically every 2 weeks starting from flushing time and presenting of psyllids of *D.citri* to 14 weeks after recommended technology applied.

RESULTS AND DISCUSSION

Citrus trees performances on orchard I which was applied completely recommended technology by researchers was significantly different to those trees on orchard II and III where the recommended technology was applied based on their understanding of how to control the HLB disease they learnt during field school program. Abundant new flushes grown on citrus trees on orchard I and some of them followed by flower bloom compared to those on two other orchards because of different levels of input material applied to those orchards. On the orchard II and II, growers were given i.e. compos and fertilizer, only for 25 trees and let they provided to the rest trees of their orchards (Ridwan, et al., 2008; Ruswandi, et al., 2008.)

On first observations before applying the recommended technology, the number of imago or adult stage of *D.citri* population had varied among orchards due to the number flushes produced on different level of maintenances by citrus growers. Number of psyllids found on orchard I reached 107 adult stages, while the average imago of *D.citri* in orchard II were 33, and on orchard III were 5 adult stages . Orchard I also functioned as demo plot of 1 ha consisted of about 500 citrus trees, being optimally maintained by recommended technology. After 14 weeks post-application, number of HLB vectors of *D.citri* on adult stage could be reduced to 1 - 5 psyllids per trees (Table 1). It meant, the application recommended technology absolutely able to reduce imago of *D.citri* population in each Orchard I,II, and III at 95,3%, 84,7%, and 72%. The pattern of imago of HLB vectors decreased after applying recommended technology was relative similar to Orchard II, but in Orchard III, the number of *D.citri* went down till 1 psyllid after first bark painting (Figure 1).

The population of *D.citri* nymph on first observation in orchard I reached 74 nymphs / tree, orchard II are 22 nymphs / tree, while in orchard III just 1 nymph / tree. The difference of nymph number per tree was also affected by the number of flush produced. At weeks 8th, the nymph boom still fluctuated and tend to decrease with unknown caused even the number of psyllid eggs were reduced significantly (Table 2). The recommended technology were going effective for nymph reduced at weeks of 12th until 14th (Table 2). The *D.citri* nymphs

decreased number compared with first application were 97,3 % (orchard I) and 80.0 % (orchard II), while on orchard III still remains 1 nymph per tree.

Table 1 – Average of number population of adult stage of *D.citri* / tree

Locations	Weeks after treatments							
	0	2	4	6	8	10	12	14
Orchard I	107 a	65a	65a	51a	3b	50a	11a	5a
Orchard II	32,6b	13,2b	28,2b	13,2b	7,8b	8,2b	4,4a	5a
Orchard III	5 b	1b	1b	1b	1b	1b	1a	1a

Note: Number followed by different letter in the same column are significant different of 5 % level.

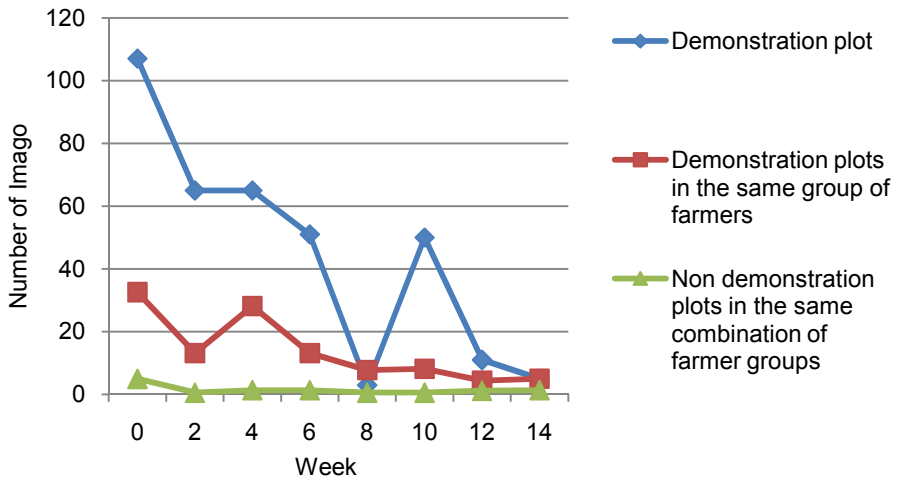

Figure 1 – Pattern of decreasing number of *D.citri* imago 14 weeks after application of the technology

Table 2 – Average of number of *D.citri* nymphs per tree 14 weeks after treatments

Locations	Week after treatments							
	0	2	4	6	8	10	12	14
Orchard I	74a	127a	3b	4b	2b	97a	5b	2b
Orchard II	22b	15b	67b	7b	23a	4b	2b	4b
Orchard III	1b	1b	11b	1b	1b	0b	0b	1b

Note: Number followed by different letter in the same column are significant different of 5 % level.

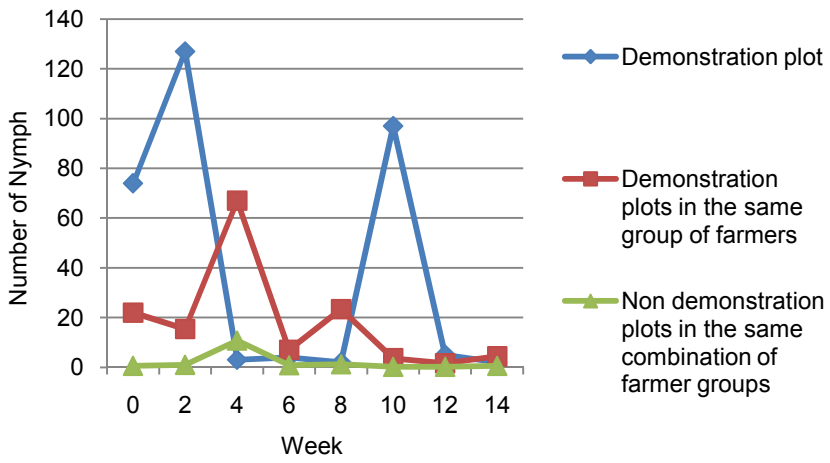

Figure 2 – Pattern of decreasing number of *D.citri* nymphs 14 weeks after application of the technology

The large amount of imagos and nymphs of *D.citri* in orchard I were coincided with the number of its eggs, because flushing period was good condition for *D.citri* done their activities i.e. feeding, copulation, and lying their eggs. The number of psyllid eggs in each of orchard I, II, and III were 135; 25; and 4 per tree respectively (Table 3 and Figure 3). The recommended technology had proven effectively in reducing number of psyllid eggs in undirect way. Fact shown that the number of eggs at weeks 14th were going down up to 98.5% (orchard I), 100% (orchard II) and 100% (orchard III). Eggs will become nymph then imago which they could be weakened by insecticides used by recommended technology for controlling of *D.citri*. The neighbouring orchard in which had not applied the package of recommended technology would unable to hold psyllids migration, therefore the amount of adult stage of *D.citri* would never be reduced to zero. The active systemic insecticide contained imidacloprit is effectively against bugs such as *D.citri* and its nymph (in stadium 3, 4 and 5) but less effective for its eggs (Figure 1-3).

Table 3 – Average of number of *D.citri* eggs per tree 14 weeks after treatment

Locations	Week after treatments							
	0	2	4	6	8	10	12	14
Orchard I	135a	119a	11b	5b	0b	3b	5b	2b
Orchard II	25b	20b	4b	0b	1b	0b	0b	0b
Orchard III	4b	7b	0b	0b	0b	0b	0b	0b

Note: Number followed by different letter in the same column are significant different at 5 % level.

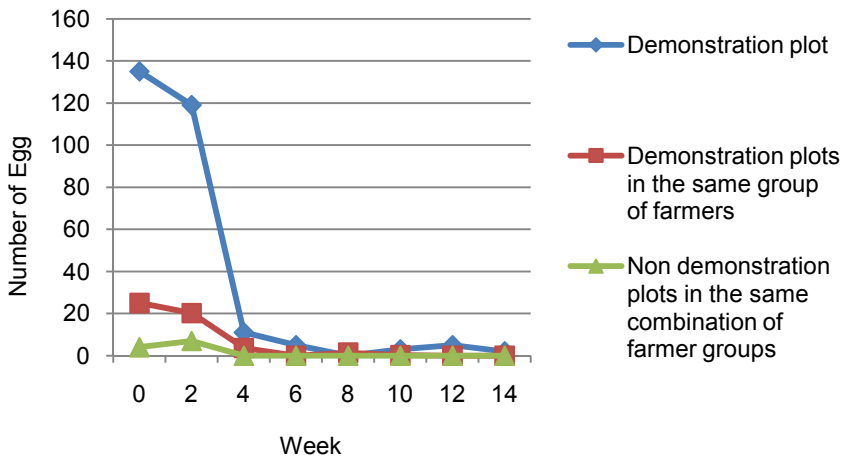

Figure 3 – Patern of decreasing number of *D.citri* eggs 14 weeks after application of the technology

In orchard I showed that application of bark painting could reduced amount of imago and nymph of *D.citri*. Two weeks after first bark painting applied, the number of nymphs tended to increase because the nymph eggs starting hatched. At weeks 8th, amount of imagos and nymphs of HLB vectors were going down then arised again at weeks 10th. That phenomenon's related to the persistency of imidacloprit inside the tissue plant which lasted for about four weeks

The consistency of citrus growers and their citrus grower groups to apply the recommended technology for controlling *D.citri* depend on intensively level understanding of citrus growers how to controll *D.citri* . Orchard I which was functioned as demo plot had good performance in reducing number of imago, nymph, and *D.citri* eggs and It had the same pattern with those performed in orchards II. Meanwhile, the difficulties faced in orchard III, because it has owned by different citrus grower groups and made difficult to organized in applying components technology for controlling HLB vectors. The control of *D.citri* was effectively if could be carried out by all member of citrus grower group compactly (Endarto et al, 2006).

CONCLUSION

Recommended technology of HLB vector controll was proven effectively to reduce significantly number of adult stage, nymphs, and egg of *D.citri*. As a technology area based, its application become more effective, if it was applied in the same time among citrus growers. Counseling and guideline of recommended technology implementation citrus grower groups based were needed in order to accelerate the tehnology adoption.

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POTENTIAL ENTOMOPATHOGENIC FUNGI TO CONTROL SCALE INSECT PEST ON CITRUS TANGERINE (CITRUS SUHUIENSIS TAN.)

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ABSTRACT
Achiving of food self-sufficiency can be done by using of local potential that is by agribusiness in Indonesia. One potential locally owned citrus agribusiness was the use of entomopathogenic fungi to improve the productivity of citrus. Reports showed decrease in productivity due to infestation of scale insect. The experiment was conducted at the Integrated Laboratory of Indonesian Citrus and Subtropical Fruit Research Institute in October 2013 to October 2014. The study began with a survey for scale insect infestation on citrus crops in high land, medium land and low in dry and rainy seasons. Taken from a collection of entomopathogenic fungi associated with scale insect in the field. Collection of fungi isolated from single conidia and its ability to infect selected scale insect. Entomopathogenic fungi were further tested for the viability and pathogenicity against scale insect. The results showed that the sclae insects attacked citrus were types of L.beckii and A.Aurantii. The highest attack occurred at low land during the dry season by L.beckii with population of 4.2 heads increased to 5.5 individuals per 10 cm in the rainy season. Viability test results showed that the isolates had viability above 50% were SKB4K, SKD1K and SBB3K for 73.6, 61.6 and 53% respectively, which were collected during the dry season. While isolates obtained in the rainy season were SBWD2H and SBWD3BH, each with aviability of 77.3 and 78.3% respectively. Pathogenicity test results showed that there were 6 isolates known to have potential as entomopathogenic fungi for controlling scale insect, namely, SBWB2H, SBWD2H, SBWD3BH, SKD1K, SBWD1K and SBB3K which had pathogenicity over 50% up to 14 days.

KEY WORDS
Citrus, scale insect, enthomopathogen fungi, viability, pathogenicity.

Problem encountered in developing citrus as one of national fruits is the low fruit quality. The low productivity is partly due to the existence of pest infestation of scale insect. Scale insect is now a major pest of citrus, whose population is very high, and causes damage to the production of citrus fruits (Meekes, 2001, Meekes et al., 2002; Triwiratno, 2004; Triwiratno and Yunimar, 2005). Scale insect with high population density attacking citrus plants causesleaves and fruits fall before ripening, as well as twigs and stems of plants die (Triwiratno et al, 2003a).

Brown scale insect (*L. beckii)* have natural enemies from fungi member of family *Aschersonia* (Meekes, 2001; Meekes et al., 2002; Triwiratno, 2004; Triwiratno and Yunimar, 2005; Liu et al., 2005; Jun-Zhi et al., 2005; Dolinski and Lacey, 2007). The fungi can control brown scale insect because they produce secondary metabolites which is insecticidal, namely destruxins A4 and A5 which is a compound of depsipeptida (Krasnoff and Gibson, 1996) and Ascherxanthone A (Isaka et al, 2005).

Citrus crops in Indonesia are planted and cultivated commercially in lowland (0-400m above sea level (asl), medium land (400-800m above sea level), and highland (> 800m asl). Commercial citrus varieties most widely grown in Indonesia areof tangerine (*C. suhuiensis* Tan.) with a population of 75%, mandarin (*C. reticulata*) with a population of 10%, and pummelo (*C. grandis*) with a population of 6% of all citrus population grown in Indonesia (Balitjestro, 2010).

This study aims to (1) determine the type and population of scale insect that attack citrus plants on three types of elevation during dry season and rainy season. (2) Selection, viability testing, and pathogenicity of fungal isolates against scale insect.

MATERIALS AND METHOD of research

Research conducted at the Integrated Laboratory of Indonesian Citrus and Subtropical FruitsResearch Institute (ICSFRI), Tlekung, Batu. The research was conducted in the dry season and rainy between October 2013 and October 2014. Location forobservation of scale insect population and sampling of fungi associated with scale insectat highland was Bangli Regency, Bali;at medium land was Banyuwangi Regency, East Java; and at lowlandwasSambas Regency, West Kalimantan.

Isolation of fungi associated with scale insect andpropagate single conidia. Technique for isolationof fungiassociated with infestation of scale insect was performed per method of Liu et al. (2005 and 2006) and del Prado et al. (2008). Samples of scales section infested with the fungus was sampled using a needle loop and inoculated into petri dishes containing PDA (Potato Dextrose Agar) medium comprising of 50 mg / L teramisin. Fungal cultures incubated at a temperature of 25-30 ° C for approximately 7-14 days until fungal colonies filled the cup. Each colony of fungi that grow was subsequently rejuvenated into a PDA medium and incubated to produce conidia period.

Rearing scale insect. Propagation (rearing) of scale insect used Banjar tangerine as host plant, planted in polybags diameter of 30 cm. 20-30 heads of first instar larvae (crawlers) of brown scale insect still actively moving (aged 1 day) were taken from a citrus plant having severe infestation of brown scale insects and inoculated onto each green leaf. The edges of leaves inoculated with crawler were limited by using wet tissue paper folds to prevent the leaving of the larvae of the leaf. The larvae of brown scale insectwere reared in a screen house at a temperature of about 25°C until imago reached 30 days and ready for treatment.

Selection of entomopathogenic fungi. Selection of entomopathogenic fungiwas done against isolates that have the phenotype of entomopathogenic and have the ability of Lethal Concentration 50 (LC 50) within 14 days. Pure fungi were isolated on PDA then incubated at 25-30°C for ± 30 days or until colonies filled the petri dish. The numberof conidia was calculated by Haemocytometer to achieve the density of 107 conidia / ml. Suspension was aseptically put into handsprayer using a micropipette. The percentage of mortality was calculated by formula (Wahyono and Tarin, 2007).

Viability of entomopathogenic fungi conidia. Results obtained from the selection that had the ability above LC 50 at 14 days, meaningthat they were pathogenic against scale insect, continued counting the viability of the fungi. Fungal colonies fromselection results were grown on PDA to fulfill the cup. Conidia were harvested by adding 10 ml of sterile distilled water containing 0.02% Tween 80 into the cup to form a suspension containing cultured conidia masses. The number of conidia on mass suspension was counted with Haemocytometer until reachingdensity of 102 conidia / ml by serial dilution then 0.1 ml was taken using a micropipette and spread onto PDA medium surface in petri dishes by using spread plate method and flattened with dryglassky (Alves et al., 1998 cit. Francisco, 2006). Conidia in PDA medium incubated at room temperature for 24 hours to form conidia germination (Skrobek, 2001).

Fungus pathogenicity testagainst scale insect. Pathogenicity test wasmerely done to isolate of selection results. The experimental design used in the study was Random Block Design factorial with three variables. The first variable was fungal isolates; the second variable was density of application conidia;and the third variable was days of observation. Replications were three times. Total conidia calculated by Haemocytometer. Dilution was to obtain conidia density of 102-107 conidia / ml. Suspension was aseptically put intohandsprayer using a micropipette. The percentage mortality was calculated by formula (Wahyono and Tarin, 2007).

RESULTS AND DISCUSSION

Survey result of scale insect population on tangerine. Scale insect that attacked citrus plants was a type of *L. beckii* and *A. Aurantii*. The highest attack occurred on the stems of citrus grown in the lowlands with the scale insect population of *L. beckii* was 4.2 heads per 10 cm rod (Figure 2). High scale insect populations in the lowlandssupposedly linked to conditions of high humidity on the tangerine plant, where the sample collected in the district of Sambas, West Kalimantan generally known of having rainfall throughout the year for 12 months.

L. beckii liked the dense tree canopy, and severe attacks usually occur in the central part of the tree canopy (Futch et al., 2001; Knapp, 2003; Triwiratno, 2004; Anonymous, 2007). The attacks on the stems, leaves and fruits found on the plant in the field caused typical symptoms of damage on the surface and the appearance of dotted and dull.

Imago *L. beckii* is dark brown with varied shapes that was long, circular and coma. Scale insect generally has a size of 1.0 to 3.0 mm and has a sort of shield on his back. Scale insect reproduce sexually or parthenogenesis. Most female scale insects can produce 40-80 eggsand placed in groups around the body that will hatch on the eighth day after the egg is produced. In the dry season, the eggs hatch in 15-20 days, while in the rainy season, hatching time is longer (Fasulo and Brooks, 2004). Crawler of scale insectwas white and runs very slowly, usually found on the stems and leaves sidelines. Crawler can survive for three days without food nutrients and can move only a few hours,then settled on a part to develop into adults (Grafton et al., 2000).

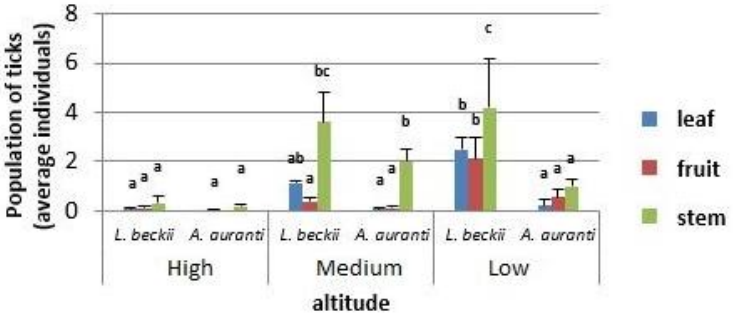

Figure 1 – Population and species of scale insects that attacked tangerine (*C. suhuiensis* Tan.) at highland, medium land and low land in dry season

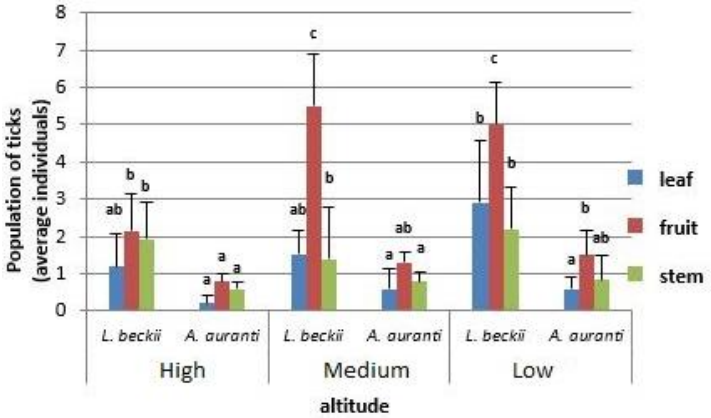

Figure 2 – Population and species of scale insects that attackedtangerine (*C. suhuiensis* Tan.) at high land, medium land and low land in rainy season.

Female insect changed skin twice, while the male had four skin changes before they reached the adult stage with wings. In a year, usually there are three or more generations. Scale insect can survive on host plants by sucking fluids from the leaves, fruit, branches, and

stems of its host plant, causing chlorosis, leaf drop, incompleted ripening, abscission of fruits, dried branches and plant death (Fasulo & Brooks, 2004).

Observations of the attacks carried out in rainy season was in conjunction with the fruit began to grow. The existence of new growing fruitsstimulated transfer of the crawler to move to get a young plant parts that will be used as a place to live when he became imago. The highest scale insectpopulation was *L. beckii* at the lowlands and the medium that was between 5 to 5.5 heads per fruit (Figure 2). While the population on the stems and leaves was lower.

A. Aurantii female mite had a hard body covering, round-shape and was maroon. While the body coveringof the male larvae was oval and smaller. Body shield of the of the female adult had a diameter between 1.5-2 mm. The larvae were brown with a very small body size (Amitaningsih, 2005). According Efendi (2009) Adult female was oval, had diameter of 2 to 2.3 mm, was spherical orange or dark brown, and produce 60-150 crawlers (first instar larvae were active).

Selection of entomopathogenic fungi from host plant type oftangerine (Citrus suhuiensis Tan.) in dry season and rainy season. Isolated fungi from three altitudes resulted 12 fungus isolates suspected entomopathogenic against brown scale insect, i.eSB B1 K, SB B2 K, SB B3 K, SB D1 K, SB D2 K (from Bali), SBW D1 K, SBW D2 K, SBW D3 K, SBW B1 K (from Banyuwangi), KSB4, KS D1 K, KS D2 K (from West Kalimantan). Fungus samples inoculated on PDA mostly obtained from the leaves and stems infected by brown scale insects. According Wraight et al, (2007) entomopathogenic fungi are adapted to dry conditions with sufficient moisture to actively infect pests (for example, on the abaksial surface of leaf or in the foldof insect cuticle membranes). Generally, entomopathogenic fungus infection against brown scales marked by orange or yellow fungal hyphae attached around the body of the insect.

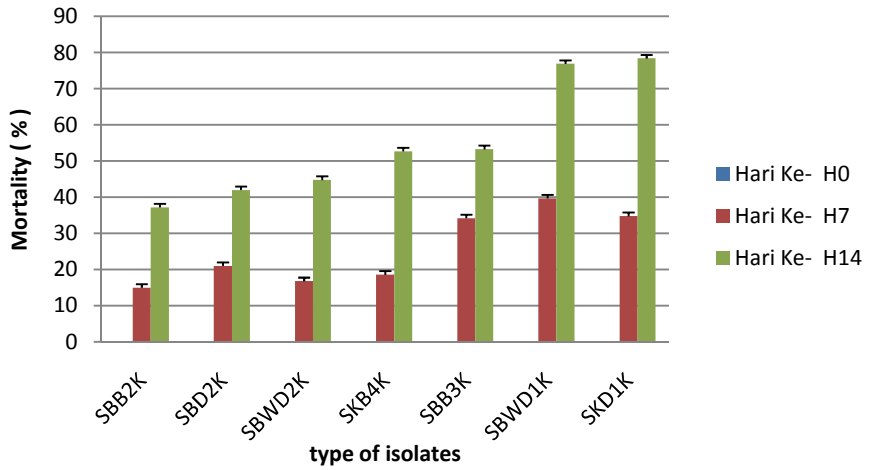

Figure 3 – Mortality of *L. beckii* by seven isolates of entomopathogenic fungiisolated from scale insect on tangerine host plant in dry season

Mortality data from the selection trials resulted four species isolates that have the highest pathogenicity, namely, SK D1 K (Sambas), SBW D1 K (Banyuwangi), SB B3 K (Bali) and SK B4 K (Sambas) with a mortality rate of *L, beckii* was 78.4%, 76.9%, 53.3% and 52.7% respectively in 14 days. Other isolates werevonly able to control *L, beckii* less than 50% for 14 days (Figure 3). Isolates obtained from the same host insect but of different topographic had different virulence (Fatiha et al, 2007). This was shown from *L. beckii* mortality data produced by seven different isolates. SK D1 K isolates originating from the lowlands had the highest degree of pathogenicity compared to other isolates. This was because the population of host plant in the lowland was better. In addition, the environmental conditions at the low landcould create the characters of the physiology of fungi that were more virulent than the others originating from the highlands and medium.

Isolated fungi from three altitudes resultednine isolates of the fungus suspected entomopathogenic against brown scale insect, i.e. SB B1 H, SB B2 H, SB D2 H, SB D3 H (from Bali), SBW D2 H, SBW B2 H, SBW H D3B, D3C SBW H (from Banyuwangi), and SK B1 H (from West Kalimantan) (Figure 4).

Alavo et al, (2004) asserts that the host range and ecological conditions can influence the genetic diversity that directly affect the virulence of a fungus power. Zhen et al, (2005) states that the virulence of entomopathogenic fungi is influenced by the character of physiology. Meanwhile, physiology character of entomopathogenic fungus closely related to the rate of growth, sporulation, conidia germination and tolerance to temperature differences.

According Prayogo (2006) the concentration of fungi with conidia density of 107 conidia / ml is the standard concentration in testing biological products. Prayogo & Marwoto (2005) also declare that the minimum dose of conidia fungal pathogens that can lead to death of insects is 103 conidia / ml. Previous research has shown that B. bassiana entomopathogenic fungi on the density of 107 conidia / ml could infect termites up to 100% (Desyanti et al., 2005).

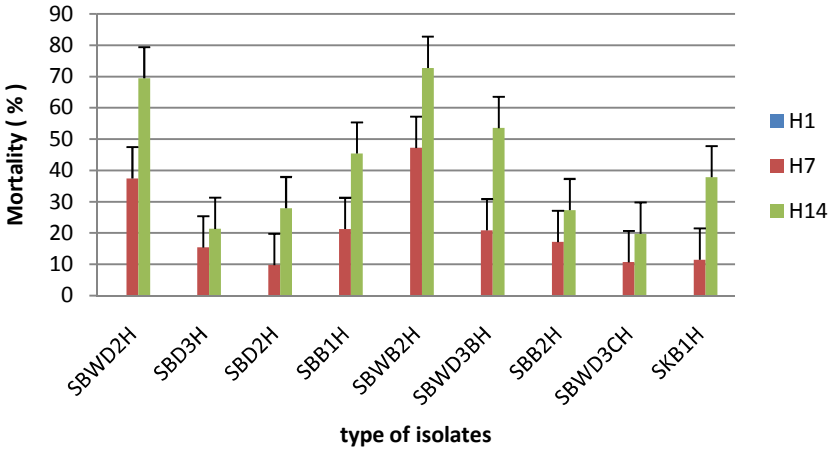

Figure 4 – Mortality of *L. beckii* by nine isolates of entomopathogenic fungi isolated from scale insect on tangerine host plant in rainy season

Viability of selection result of entomopathogenic fungiin dry season and rainy season. A total of seven isolates of the selection result, namely, SB B2 K, SB B3 K, BSD2, SBW D1 K, SBW D2 K, SK B4 K and SK D1 K (Figure 5) were tested for conidia viability to identify the speed of conidia germinated within 24 hours. The ability of fungi conidia to germinate within a certain time could be seen from the level of its viability. The higher the percentage of viability, the shorter the germination time required.

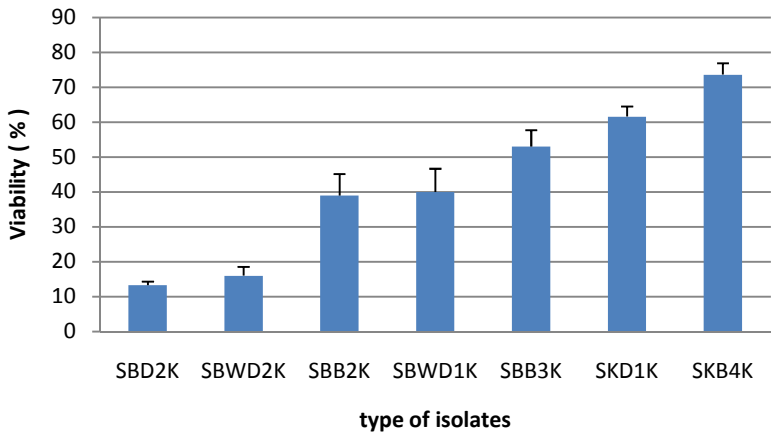

Figure 5 – Viability ofconidia of seven entomopathogenic fungi isolated from scale insect on tangerine host plant in dry season

Different isolates types had a significant influence on the value of the viability of conidia of the fungal isolates (P <0.05). Of the seven tested isolates, there were three types of isolates that hadthe highest level of viability of fungal isolates conidia, namely,SK B4 K, SK D1 K and SB B3 K of 73.6%, 61.6% and 53%respectively,while four other isolates had a percentage viability of less than 50% (Figure 5). Viability of isolates conidia ofSB B3 K was relatively lower than isolates SK D1 K, even though the two isolates were statistically not significantly different (P> 0.05). Based on the results of previous studies, the percentage of fungal conidia viability could reach 90% - 100% (Rahayu, 2009). The highest viability was achieved by SBW D2 H and SBW D3B H with viability of 77.3% and 78.3% respectively (Figure 6). In this viability test, fungal isolates were incubated at room temperature of 25 ° C. The optimum temperature for growth, pathogenicity and survival of entomopathogenic fungus was around 20 - 30°C (Morissey & Osbourn, 1999).

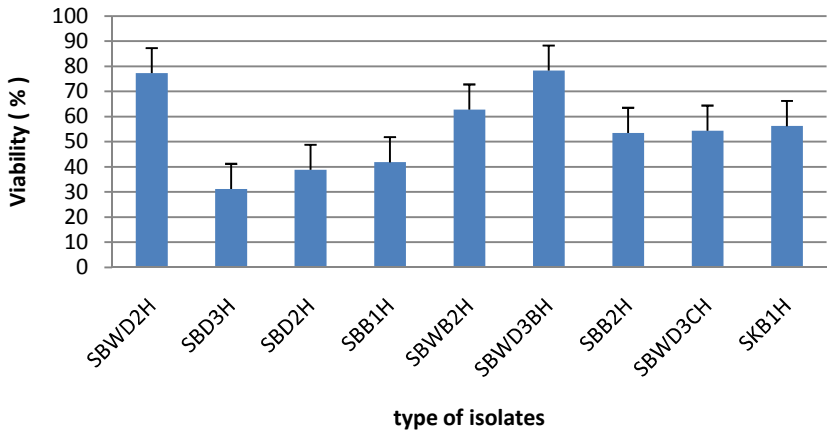

Figure 6 – Viability of conidia ofnine entomopathogenic fungi isolated from scale insect on tangerine host plant in rainy season

Viability of entomopathogenic fungus spore was influenced by temperature, humidity, pH, solar radiation and chemicals, such as nutrients and pesticides (Muller Kongler, 1967 in the Robert & Yendol, 1971; Riyanto, 1993). In this viability test, fungal isolates were incubated at room temperature of 25°C. The optimum temperature for growth, pathogenicity and survival of entomopathogenic fungus was around 20 - 30°C (Morissey & Osbourn, 1999).

Pathogenicity of entomopathogenic fungi from tangerine host plants. A total of six isolates were tested for pathogenicity to determine the level of virulence. All three isolates were selected based on the selection test with mortality, and the highest conidial viability were SBW D1 K, SK D1 K, SB B3 K, SBW D2 H, SBW B2 H, and SBW D3 BH with mortality of *L. beckii* was 81.1%, 73.6%, 68.8%, 69%, 72%, and 54% respectively, for 14 days at a concentration of 107 conidia / ml. Observation of the first day of treatment showed that all concentration treatment of each type of isolates had not shown *L. beckii* death.

The increase of *L. beckii* deaths can be observed on the seventh day and 14th day after the application. Increased mortality rates can be compared with the control treatment. In this case, the control treatment merely contained tween 80. Of all the control treatment, the mortality rate of each isolate was 0%. Differences in density offungus conidia had a significant influence on mortality of *L. beckii* of each isolatestype (P <0.05).

Isolates of SB B3 K generated from the highlands of Kintamani-Bali had conidial viability rate of 53% on PDA. Although the percentage of the conidia viability was medium, this isolates at selection test could control *L. beckii* up to 53.3% at a concentration of 107 conidia / ml for 14 days. Based on this result, the SB B3 K isolates was further tested to determine the pathogenicity against *L. beckii.*

Significant difference between conidia density and observation time indicated an interaction between them (P <0.05). Differences in conidia density gave effect to the increase in the value of the percentage of brown scaleinsect mortality. Isolates of SB B3 K could

control *L. beckii* at the highest concentrations of 10^4, 10^7 and 10^3 conidia / ml for 70.8%, 68.8% and 59.9% respectively at day 14th. Isolates of SB B3 K at the concentration of 10^4 conidia / ml could control *L. beckii* higher than that at the concentration of 10^7 conidia / ml, as well as that at the concentrations of 10^5 and 10^6 conidia / ml could control *L. beckii* lower than that at the concentrations of 10^4 and 10^3 conidia / ml (Figure 7).

This study indicated that a high conidia density did not always give a high mortality rate. This condition is contrary to previous statement that the higher conidia given, the higher mortality generated. This was caused by the host population density and environmental conditions. LC50 value generated from this isolates SB B3 K was 4,5x10^7 conidia / ml on day 14th.

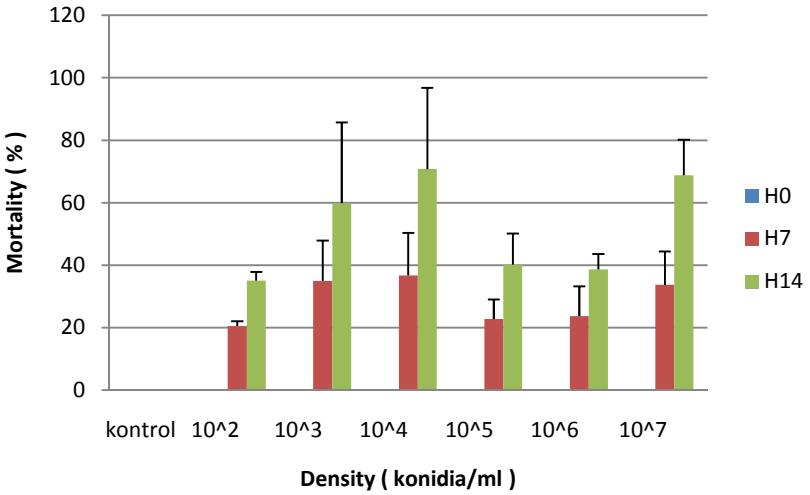

Figure 7 – Mortality of *L. beckii* by isolates of SB B3 Kwith density of 10^2-10^7/ml at 1st day, 7th day and 14th day

Isolates of SBW D1 K came from the medium land in Banyuwangi had a viability level of 40% which were grown on PDA. Although the percentage of viability was relatively very low (<50%), this isolates, at the selection phase, could control *L. beckii* up to 76.9% at a concentration of 10^7 conidia / ml for 14 days. Isolates of SBW D1 K was suspected can germinate well when having directcontact with the host than on PDA medium containing high carbohydrates. According to Nelson et al, (1983), high carbohydrate content causes a loss of viability of entomopathogenic fungi. Based on this, the isolatesof SBW K D1 wasfurther tested to determine the ability of pathogenicity against *L. beckii.*

Isolatesof SBW D1 K could control *L. beckii* mostly at the concentrations of 10^7, 10^6 and 10^5 conidia / ml for 46.2%, 42.4% and 35.4% respectivelyon the seventh day. Mortality valueon the seventh day was different from the fourteenth day. The longer the time the application made, the higher the value of *L. beckii* mortality resulted from each concentration. On day fourteenth, mortality at concentrations of 10^7, 10^6 and 10^5 conidia / ml increased by 81.13%, 63.5% and 51.2%respectively,whereas at lower concentrations, that were, 10^4, 10^3 and 10^2 conidia / ml could control *L. beckii* less than 50%, i.e. 48.1%, 38.7% and 25% on the fourteenth day. The LC50 value generated from isolates of SBW D1 K was 3,3x106 conidia / ml.

Isolates of SK D1 K came from the lowland in Sambas, West Kalimantan. These isolates had conidial viability value of 61.6% on PDA medium. The resultsof selection test indicated that the mortality rate of *L. beckii* reached 78.4% at day 14th. The ability of these isolates to infect *L. beckii* was high as well as its viability rate, therefore, it was necessary to test the isolate pathogenicity.

On the seventh day, the isolates of SKD1 K could control*L. beckii* at concentration of 10^5, 10^6 and 10^7 conidia / ml for 25.8%, 23.5%, and 20.4%respectively. The value of mortality increasedup to the fourteenth day. On day 14th, the mortality of *L. beckii* at concentration of 10^7 and 10^6 conidia / ml increased more rapidly than that at the concentration of 10^5 conidia /

ml for 73.6%, 69, 9% and 56% respectively.Whereas the isolate at concentration below 10^4, 10^3 and 10^2 conidia / ml could control *L. beckii* less than 50%, i.e. 45.4%, 32.4%, and 28% respectively at day 14th. The LC50 value generated from isolates of SK D1 K was 3,3x105 conidia / ml.

Isolatesof SBW D2 H collected from host plants at the medium land in Banyuwangi, East Java were isolated from leaves during the rainy season. Based on the LC50, isolates of SBW D2 Hwere the most virulent to *L. beckii* since the conidia of 10^3 conidia / ml on day 14th could infect 50% of the scale insect. The LC50 value from isolatesof SBW D2 H was 7,2x106 conidia / ml.

Isolatesof SBW B2 H collected from host plants at the medium land in Banyuwangi, East Java were isolated from leaves during the rainy season. Based on the LC50,isolates of SBW D2 H were the most virulent to *L. beckii* since the conidia of 10^3 conidia / ml on day 14th could infect 50% of the scale insect. The LC50 value from isolates of SBW B2 H was 1,04x106 conidia / ml.

Isolatesof SBW D3 BH collected from host plants at the medium land in Banyuwangi, East Java were isolated from leaves during the rainy season. Based on LC50, isolates of SBW D3 BH hada lowervirulence than isolates of SBW B2 H, because the conidia of 10^5 conidia / ml on day 7^{th}couldinfect only 50% of the scale insects, whereas isolates of SBW B2 H could get LC50 at conidiaof 10^4 conidia / ml. The LC50 value from isolatesof SBW D3 BH was 5.3 x104 conidia / ml.

CONCLUSION

Scale insectsthat attacked tangerine (*C. Suhuiensis* Tan.) at the highlands, medium lands, and low lands during the dry season and the rainy season weretypes of *L. beckii* and *A. Aurantii*. The highestpopulation occurred at the low lands during the dry season by *L. beckii* with a population of 4.2 heads and increased to 5.5 heads per 10 cm in the rainy season. Selection result, viability test and pathogenicity showed that there were six fungal isolates that have potential as entomopathogenic fungi to control scale insects, namely, SBW B2 H, SBW D2 H, SBW D3 BH, SK D1 K, SBW D1 K and SB B3 K.

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FACTORS THAT INFLUENCE OF SUPPLY AND DEMAND OF CRYSTAL SUGAR IN INDONESIA

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ABSTRACT
The purposes of this research were to analyze the factors affecting supply and demand of crystal sugar, and the elasticity of supply and demand of crystal sugar. The results showed that the productivity of sugar cane has a value (R2) of 0,309. The interest rate, wage, and fertilizer price were significantly influenced to sugarcane productivity and negative value. Land area has a value (R2) of 0,511. The price of sugarcane has a significant effect on the land area and positive value. Sugar productivity has a value (R2) of 0,209. Quantity of sugar cane production has significantly affected the land area and positive value. The demand for sugar has a value (R2) of 0.702. The sugar price and demand of the previous year had a significant and negative effect on sugar prices and positive for sugar demand for the previous year. Domestic sugar price has a value (R2) of 0,844. World sugar price, nominal rate of protection, exchange rate significantly influences sugar price and positive. The import of sugar in Indonesia is worth (R2) of 0,846. Sugar imports in the previous year had a significant effect on sugar prices and positive. Domestic sugar demand and nominal rate of protection were an elastic level of 2,279 and 1,273.

KEY WORDS
Forcasting, import, crystal sugar, demand sugar, Indonesia.

Sugar is one of commodities that plays a big role in agricultural sector especially sub plantation sector in indonesia.Sugar is also one of basic needs and the source of calories relatively inexpensive (a body of agricultural research, 2005).The score at sugar as an ingredient of sweetening main cannot replaced by other substances which used both by households and industry food and drink.

A lot of factors affect the condition of a setback sugar industry in indonesia. In addition to the decline in the level of efficiency in the farming business and sugar factory, a variety of factors such as the policy of the government also influential significantly against a setback of the sugar industry in indonesia (Susilo, 2005). There was a policy import sugar raised fears the government will import sugar high, which is seen as the threat to food independence. Food independence is an important thing in the developing countries with a population of great with purchasing power of the community is relatively low like Indonesia. The stability of the normal price of sugar in the domestic market at a rate that benefits producers (sugar industry) and appropriate for consumers, is a thing that matters in order to ensure the survival of the sugar industry and prompted the national sugar confection. The demand of sugar could be met as one of essential commodities the community (Churrmen, 2001).

Production sugar domestic less able to fulfill the community so the shortages have to covered sugar imports continue to menigkat from year to year since 1990.A period of the year 1991-2001, sugar industry indonesia is a tendency volume import with the increasing.A limitation on imports sugar needs to be done to maintain the sustainability of the industry sugar while keeping wealth who are reached by the community.

Import activities were included in the supply area of crystal sugar so that it must be systematically analyzed from the supply side. Offer of course affects the supply of sugar crystal in Indonesia, so it can control the flow of imported sugar into the territory of Indonesia. Therefore, it is necessary to analyze the factors that can influence the amount of sugar import as well as analyze the elasticity of imports. This analysis activity can be used as the initial basis to forecast the import of sugar in Indonesia in the future. The purpose of this

study was to analyze the factors that influence supply and demand of crystal sugar and to analyze the elasticity of supply and demand of crystal sugar.

METHODS OF RESEARCH

Type and data source of this research is secondary data obtained from related institution. Secondary data represents data obtained from a literature study and organizations relevant research. Secondary data needed is the results of the study before relevant to furnish this research. The data obtained by conducting documentation and search information from agencies. Among others office of agriculture, bureau statistic center, the board sugar indonesia, the directorate general plantation site and FAO site, USDA site, site word bank and various literature that support the preparation of this research.The kind of data that used was the data the time from year 1985-2013.

Analysis of research data using qualitative and quantitative analysis. Quantitative analysis in this research use simultaneous equation model. Simultaneous system model of simultaneous equation in structural form that is identified more used 2 SLS method. If all model equations are overidentified, then this model is most suitable to use. So in this research will be used method 2 SLS which expected result can describe actual condition according to data processed.

Model Identification. Identification is needed to find out how to solve the existing simultaneous equation system or whether a system of simultaneous equations is solved or not. There are three identification problems in the simultaneous equations, where each of the identification problems can know what method is appropriate to solve a system of simultaneous equations encountered. The three problems are: underidentified, exactly identified, and overidentified. Identify the model using order condition with the following formula:

$(K-k) = (m-1)$: *exactlyidentified*
$(K-k) > (m-1)$: *overidentified*
$(K-k) < (m-1)$: *underidentified*

Where: K = The number of predetermined variables includes current exogenous variables in the model; k = The number of predetermined variables in a given structural equation; m = The amount of current is endogenous in the model.

The following will be done calculation in accordance with the order condition of the equations used in this study:

$$Qt = Lt*Yt$$
$$Yt = a + a_1\, Lt + a_2\, Pbit + a_3\, PPuk + a_4\, W + a_5\, i$$
$$Lt = b + b_1\, Pa + b_2\, Pj + b_3\, I + b_4\, Pg + b_5\, PPuk + b_6\, Pbit$$
$$Qg = rt * Qt$$
$$Yg = c + c_1\, rt + c_2\, Qt$$
$$Qs = Qg + Mgp$$
$$Mgp = f + f_1\, Pw + f_2\, ER + f_3\, Qd + f_4\, Mgpt\text{-}_1$$
$$Qd = d + d_1\, Pg + d_2\, Pop + d_3\, In + d_4\, Qdt\text{-}_1$$
$$Pg = e + e_1\, Pw + e_2\, ER + e_3\, Nrp + e$$

Where:

Qt = Quantity of sugar cane production;
Lt = Sugar Cane Area;
Yt = Sugar cane Productivity;
PPuk = Fertilizer Price;
Pbit = Seed Price;
W = Wages;
i = Loan interest degree;
Pg = Sugar price;

Pa = Paddy price;
Pj = Maize price;
Qg = Quantity of sugar production;
Rt = Level of Rendemen;
Yg = Sugar Productivity;
Qd = Sugar Demand;
In = Level of Income;
Qdt_{-1} = Quantity of sugar demand the previous year;
Pw = World sugar price;
Pgt_{-1} = Sugar price of previous year;
HPP = Cost of Farmers;
Pop = Population;
Mg = The number of Indonesian sugar imports;
Er = Exchange rate in USA;
Nrp = Nominal rate of protection;
Mgt_{-1} = the amount of sugar imports the previous year;
Qs = Supply of Indonesia sugar.

Based on the above equation it can be identified that the total number of variables used in the above equation amounted to 25. The calculation is only done on the structural equation, so the number of equations is 6. The following table 1 will show the results of calculations.

Table 1 – Result of order condition calculation

Equation	K	K	M	Calculation	Result
Yt	25	5	6	25-5 > 6-1	Over Identified
Lt	25	6	6	25-6 > 6-1	Over Identified
Yg	25	2	6	25-2 > 6-1	Over Identified
Qd	25	4	6	25-4 > 6-1	Over Identified
Pg	25	5	6	25-5 > 6-1	Over Identified
Mg	25	4	6	25-4 > 6-1	Over Identified

Model Estimation. The model estimation uses the 2SLS method which shows that the model is Over Identified. Analyzer used for process completion simultaneous equation model using software SAS 9.1.3.

Statistic testing. This test is expected to know which exogenous variables that affect the endogenous variables, either together or partially. For that required testing consisting of t-statistical test, F test and R^2 test. Other statistical tests need to be done before testing to make sure the data used is appropriate especially for secondary data and time series ie stationary tests (gaynor and Patrick, 1994).

RESULTS AND DISCUSSION

Information from in chapter before, the model formulated is linear model simultaneous equations; with the methods two stage least aquares method (2SLS). This section is will be explained the results of research has diperleh begins with presentation of equation his behavior based on a sign and magnitude, the coefficients determination, statistical of F test and T test.

According sa'diyah (2014) Estimation model done with use some help software SAS. Next phase that is testing statistic of the estimation results which includes T test, F test and R^2 in each equation was answering research objectives the first namely know what factors affecting economic crystal sugar in indonesia. In addition research objectives both to know elasticity short-term can also directly known of the size of variable parameter measured.

The following is the results of the analysis of the equation first to explained through table 2 showing equation strujtural of all of our productivity of the sugar cane by factors

affecting the area of land, the price of fertilizer, wages and interest rates based on the data time series start know 1985-2013.

Table 2 – The results of the analysis productivity cane

Variable	Coefficient	Pr> |t|
Intercept	2.255294	0.0016
Lt	0.079514	0.5048
PPuk	-0.105759*	0.0557
W	-0.20823*	0.0653
I	-0.20823***	0.0653

R-Square = 0.30928
F = 2.69
F tabel α 5% = 2,78
Durbin Watson = 1.807961
*** significant on α 1%
** significant on α 5%
*significant on 10%

Based on 2SLS analyzis result for table 1, got equation as follow:

$$Yt = 2.255294 + 0.079514\ Lt - 0.105759PPuk - 0.20823W - -0.20823I + e$$

Based on table above known productivity cane it has value (R^2) as much as 0,309 shows that 30,9% equation cane productivity in indonesia can be explained by variable land area, price of fertilizer, wages and interest rates while 69,1 % the rest explained other variables that aren t pursuing. Interest rates, wages and the price of fertilizer is influence significantly to productivity cane and was negative.

Table 3 – Result of Land Area Analysis

Variable	Coefficient	Pr> |t|
Constanta	4.309922	0.0016
Pa	0.00291	0.9884
Pj	0.170420	0.3548
Pg	0.242534	0.0695
I	-0.12728	0.3324
PPuk	0.016894	0.5622

R-Square =0.51121
F =4.81
F tabel α 5% = 2,78
Durbin Watson = 0.603793
*** significant on α 1%
** significant on α 5%
*significant on10%

Based on 2SLS result analysis on table 2 above, got equation as follow:

$$Lt = 4.309922 – 0.00291\ Pa – 0.170420Pj + 0.242534\ Pg – 0.12728\ I + 0.016894\ PPuk + e$$

Based on table above known land area it has value (R^2) as much as 0.51121 shows that 51,1% equation land area in indonesia can be explained by variable rice price, corn price, sugar price, interest rates and fertilizer price while 48,9 % the rest explained other variables that aren t pursuing. The price of sugar cane influence significantly to of land area and is positive, while variable of rice price, corn price, interest rates, and fertilizer price not had have real impact on the land.

Table 4 – Result of Sugar Productivity

Variable	Coefficient	Pr> |t|
Constanta	2.155332	0.2244
rt	0.012061	0.9878
Qt	0.012061**	0.0146

R-Square = 0.20922
F =3.44
F tabel α 5% = 2,78
Durbin Watson = 0.252783
*** significant on α 1%
** significant on α 5%
* significant on 10%

Based on 2SLS result analysis on table 3 above, got equation as follow:

$$Yg = 2.155332 + 0.012061\ rt + 0.012061Qt + e$$

Based on table above known area of land it has value (R^2) as much as 0.20922 shows that the 20.9 percent equation productivity sugar in indonesia can be explained by variable rendemen and production cane while 79.1 percent of the explained other variables that aren t pursuing.The volume of production cane influence significantly to productivity cane and is positive, while variable rendemen not had have real impact on productivity sugar.

Table 5 – Result of Sugar Demand Analysis

Variable	Coefficient	Pr> |t|
constanta	3.410803	0.2968
Pg	-0.16359*	0.988
Pop	0.08847	0.8288
In	0.058484	0.6633
Qdt_{-1}	0.643324***	0.0001

R-Square = 0.70241
F = 14.16
F tabel α 5% = 2.78
Durbin Watson = 1.988423
*** significant on α 1%
** significant on α 5%
*significant on 10%

According of 2SLS result analysis on table above, got equation as follow:

$$Qd = 3.410803 - 0.16359Pg + 0.08847\ Pop + 0.054848\ In + 0.633324\ Qdt_{-1} + e$$

Table 6 – Result of Sugar Price Analysis

Variable	Coefficient	Pr> |t|
Constanta	0.271149	0.5619
Pw	0.665334***	0.0001
Er	0.719725***	0.0059
Nrp	2.279440***	0.0001
HPP	0.113093	0.3006
Pgt_{-1}	0.062882	0.5363

R-Square = 0.84390
F = 24.87
F tabel α 5% = 2.78
Durbin Watson = 1.946741
*** significant on α 1%
** significant on α 5%
*significant on 10%

Based on table above known land area it has value (R^2) as much as 0.70241 shows that 70,2% equation demand sugar in indonesia can be explained by variable sugar price, population, income, demand sugar years former while 29,8% of the explained other variables that aren't pursuing. Sugar price influence significantly and was in nature negative, while demand sugar the previous year influence significantly and negative to productivity cane and is positive to demand sugar. To variable the population and penapatan not influence significantly to demand sugar.

Based on 2SLS result analysis on table above, got equation as follow:

$$Pg = 0.271149 + 0.665334Pw + 0.719725\ Er + 2.279440\ Nrp + 0.113093\ HPP + 0.062882\ Pgt\text{-}_1 + e$$

Based on table above known sugar price domestic it has value (R^2) as much as 0.84390 shows that 84.3% equation sugar price in indonesia can be explained by variable sugar price the world, the exchange rate, nominal rate of protection, basic price farmers and sugar price the previous year while 15.7% of the described by other variables that tiak study. Sugar price the world, nominal rate of protection, the exchange rate influence significantly on the price of sugar and is positive. On the variables basic price farmers and sugar price years not previously influence significantly to domestic demand sugar price.

Table 7 – Result of Sugar Import Analysis

Variable	Coefficient	Pr> |t|
constanta	-8.03120	0.3445
Pw	0.579741	0.3023
ER	0.072691	0.9746
Qd	1.273201	0.3550
Mgt-1	0.673415***	0.0001

R-Square = 0.84628
F = 33.03
F tabel α 5% = 2.78
Durbin Watson = 12.309193
*** significant on α 1%
** significant on α 5%
*significant 10%

Based of 2SLS result analysis on table above, got equation as follow:

$$Mg = -8.03120 + 0.579741\ Pw + 0.072691\ ER + 1.273201\ Qd + 0.673415\ Mgt\text{-}1 + e$$

Based on table above known import sugar in indonesia to have the value of (R^2) as much as 0.84628 shows that 84.6% equation import sugar in indonesia can be explained by variable sugar price the world, the exchange rate, demand sugar, import sugar the previous year while 15,4% of the described by other variables that aren't pursuing. Import sugar the previous year influence significantly to import sugar and is positive.Variable sugar price the world, the exchange rate, demand sugar not influence significantly to import sugar.

Domestic demand sugar and a nominal rate of protection, lies on the level elastic with a elasticity of 2.279440 and 1.273201. This indicates that every happened an increase in demand sugar of 1 kg will increase import sugar of 2.279440 kg and when been an increase in 1 percent for nominal rate of protection will improving the normal price of sugar IDR 1.273.201.

CONCLUSION AND SUGGESTIONS

Factors that affect supply and demand crystalline sugar in Indonesia consisting of the supply side, demand and prices as follows:

Factors affecting demand and supply sugar crystals of the supply side is the price of fertilizer, wages, interest rates, sugar price domestic, production and imports sugar cane the previous year. The price of fertilizer, wages, and the normal price of sugar had have real impact and negative while production and imports sugar cane the previous year had have real impact and positive.

Factors that affect the supply and demand of crystal sugar from sides of demand is the demand for sugar in previous years and the price of domestic sugar, both the real and influential variables was negative.

Factors that affect the supply and demand of crystal sugar from sides of the price is the price of domestic sugar, sugar world prices, exchange rates and the nominal rate of protection, the overall variables that affect the price of real and has a positive effect.

Domestic demand sugar and a nominal rate of protection are on a level that elastic with an elasticity of 2.279440 and 1.273201. The data indicates that each happened an increase in demand sugar of 1 kg will increase import sugar of 2.279440 kg, while if there is an increase of eat nominal rate of protection will increase sugar price of IDR 1.273.201

Suggestion for government based on the research done that has been done maybe can be used in us consideration determine sugar policy expected can increase production of sugar cane and sugar in indonesia by reducing sukau the interest on the loan and give fertilizer subsidy, increased the price of the sugar thus farmers is interested in plant tebudan will increase productivity cane, when the price of sugar crystal up and the demand side crystal sugar will decline. The condition of being in balance with increased production of sugar domestic could decrease the number of import crystal sugar.

For researchers next should be able to investigation by the use of model research and instrument analysis more etail and complex that obtained model more detailed in describing import sugar based on berbegai kind of sugar imported as raw sugar, refined sugar or white sugar to to reflect demand imports in each type of sugar.

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INFLUENCE OF ZEOLITES ON THE PHYSIOLOGICAL PROCESSES IN TISSUES OF PLANT REPRODUCTIVE ORGANS

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ABSTRACT
The stabilizing effect of zeolite on the pH and EC indices of soils for growing tomato has been revealed in this study. A close relationship (0.75-0.91) between the electrical conductivity of aqueous extract from zeolite and germination in laboratory, the germination energy, the growth activity of root tissues in the early stages of ontogeny was established. Spraying with zeolite nanoparticles reduces the water deficiency in the epidermis and the loss of fruit water (by 35%), which improves their commercial quality during storage. Suppression of pathogenic microflora causing fruits rot is noted at level of 48 to 75%.

KEY WORDS
Zeolite, growth processes, water deficiency, plant tissues, tomato, reproductive organs.

Management of the physiological processes of plant tissues is a key issue in reproductive biology in the production of tomato fruit [1]. The normal course of growth processes, development, providing tissues with water and the necessary elements of life activity is possible due to the use of innovative materials [2]. In modern production, stimulators of growth processes of chemical nature, the so-called "growth hormones": auxins, cytokinins, gibberellins became widespread. They find application primarily to accelerate the intensity of cell division and tissue differentiation into organs. The effectiveness of their action is difficult to control in production conditions, since methods for determining the concentration of hormones in plant tissues are complex. Namely, the ratio of the concentrations of various types of hormones determines the intensity of the course of physiological processes [3].

One of the new directions in managing the growth of plants is using natural resources for these purposes. The physiological activity of bischofites, sapropels, and peats has been sufficiently studied. Zeolites are also promising for use in vegetable growing. Their properties as meliorants and adsorbents were studied. They also have a number of advantages that are not fully investigated, but can be used to control physiological processes [4].

Zeolites have a unique chemical composition. The main component in the chemical structure is clinoptilolite, its share reaches 77%. This substance provides a high ion-exchange capacity of the structures (1.5 mg eq/g). Zeolites adsorb ions of mercury, cadmium, lead, copper, strontium from the liquids. At the same time, they are the source of silicon, iron, manganese, fluorine and other useful elements. Zeolites are classified as environmentally friendly materials. Their using in vegetable growing will make it possible to receive organic products that are valuable for human nutrition. The structure of the crystal lattice makes it possible to adsorb and to give off moisture, which is important in regulating the water regime [5].

The aim of the studies was to study the effect of zeolites on growth activity and the water regime of the tissues of tomato reproductive organs that allows developing methods of growing plants and storing fruits.

MATERIALS AND METHODS OF RESEARCH

The study of the biological effectiveness of zeolites was carried out in two directions. In the first, the effect of different concentration of mineral fine fractions on the properties of

aqueous extracts of soils used in vegetable growing was investigated. To do this, peat soil, coconut, sand, light chestnut soil with zeolite was mixed in the ratios of 1:1, 1:4. An aqueous extract was prepared from the mixture according to the generally accepted procedure (GOST 26483-85) and its properties were studied by electrophysical methods.

At the second stage, the effect of aqueous extract from zeolites on the physiological processes during the germination of seeds was studied. To do this, the tomato seeds of the variety "Podarochny" were germinated on a water extract prepared with the addition of zeolites of 1, 5, 10, 15 and 20 g/l. Germination was carried out in Petri dishes at a temperature of 22 - 23 °C. We studied the germination energy, laboratory germination, the activity of growth processes in the root according to generally accepted methods (GOST 12038-84, GOST 12039-82, GOST 32592-2013) [6, 7, 8, 9, 10].

The influence of zeolites on the water regime of the top cover tissues of tomato fruits was studied during the storage period. For this, the fruit was coated with a thin layer of zeolite of the fraction 0.0001-0.001 microns. The loss of water by the tissues during storage at the temperature of 5 - 6 °C was noted. The change in fruit quality was evaluated according to the criteria of GOST R 55906-2013.

RESULTS AND DISCUSSION

The meliorative properties of zeolites are well known. When applied to the soil, it improves the structure, enriches it with trace elements, absorbs pollutants. However, studies related to the investigation of meliorative properties were carried out on soils in the open field. With the development of vegetable crops production in greenhouses on artificial substrates, the use of zeolite in soil preparation technology becomes particularly urgent. Manufacturers recommend this material in low-volume hydroponics. These technologies are not developed due to the absence of extensive research, in this connection zeolite is not introduced into the practice of vegetable growing.

The study of zeolites effect on the physical and chemical characteristics of various soils has shown the possibility of optimizing their composition. In southern regions, more than 75% of the protected ground is temporary shelters (greenhouses), where tomatoes and cucumbers are grown directly in the soil. However, light chestnut soils have an excessively alkaline pH reaction, a high content of readily soluble salts. This creates an unfavorable nutritional regime for plants. The introduction of zeolite into the soil makes it possible to lower the pH to 8.0 and to reduce the concentration of readily soluble salts by 17.6%.

The sand has more favorable pH values of 7.5. The salt content is very low (about 0.06 g/l). Adding zeolite to sandy soils allows to increase the electrical conductivity index up to 1.2 mS/cm, which means improving the colloid-osmotic properties of the substrate and the regime of mineral nutrition of plants (Table 1).

Table 1 – Effect of zeolite on the properties of water extracts of soils used in greenhouses

Soil composition	Physicochemical parameters of water extract		
	pH	The content of readily soluble salts, g/l	Electrical conductivity (EC), mS/cm
Light chestnut soil	8.5	0.17	1.7
Zeolite	8.0	0.24	1.2
Soil 50% + zeolite 50%	8.3	0.16	1.5
Soil 75% + zeolite 25%	8.0	0.14	1.6
Sand	7.5	0.06	0.9
Sand 50% + zeolite 50%	7.9	0.13	1.2
Sand 75% + zeolite 25%	7.8	0.09	1.1
Peat	5.1	0.24	1.3
Peat 50% + zeolite 50%	5.8	0.15	1.5
Peat 75% + zeolite 25%	5.4	0.19	1.4
Coconut fiber	6.2	0.34	1.8
Coconut fiber 50% + zeolite 50%	6.0	0.39	1.5

Peat is widely used in growing seedlings. However, it has an acid reaction (in our experiments pH 5.1). Zeolite is largely regulates this index, increasing it to favorable levels of 5.4 - 5.8 when growing tomato, cucumber, strawberry. Also, the EC (electrical conductivity) of water extract with addition of zeolite to peat is also increased to the recommended values (1.4 - 1.5 mS/cm).

Coconut fiber contains a significant amount of readily soluble salts 0.34 g/l (twice as much as in light chestnut soil). Zeolite slightly reduces the acidity (by 3.2%) and electrical conductivity (by 16.7%), which also creates favorable conditions for the mineral nutrition of plants.

The greatest effect is observed when zeolite is added to light chestnut soil, peat and coconut fiber. For improving the structure, physical and chemical parameters of the soil, it is possible to recommend adding zeolite in the amount of 25% of weight, and for peat and coconut fiber - 50%.

The biological effectiveness of the zeolite is of interest. The complex of compounds that passes into the solution in the substrate affects the course of physiological processes in the tissues during the germination of seeds. This phenomenon was studied on the tissues of tomato seedlings when germinated in zeolite aqueous extract in various concentrations (Table 2).

Table 2 – Effect of different concentrations of zeolites aqueous extract on the germination of tomato seeds

Variants of aqueous extraction of zeolites	Electrical conductivity (EC), mS/cm	Laboratory germination, %	Energy of germination, days	Root length on the day of counting, mm	Growth activity of tissues in comparison with the control, mm per day
Control (water)	0.05	87.3	6	19.2	3.2
1 g/l	0.3	91.1	5	23.5	4.7
5 g/l	0.6	95.6	5	24.1	4.8
10 g/l	0.7	97.2	5	24.7	4.9
15 g/l	0.9	97.6	5	24.7	4.9
20 g/l	1.2	97.5	5	24.6	4.9
Average	-	94.4	-	23.5	4.7
Smallest significant difference (0,05)		0.21		0.09	0.02

In laboratory experiments, the positive effect of aqueous extract from zeolite on growth processes during the germination of tomato seeds was established. In all variants, the excess over the control was observed at the rate of laboratory germination by 4.35-11.8%. The energy of seed germination increased, as a result of which the period of appearance of the root decreased to 5 days. There was also an increase in root growth activity in the experimental variants compared with the control. The length of the sprouts roots in zeolite extracts exceeded the control by 22.4-28.6%.

Zeolite, as a natural mineral, does not contain the substances of hormonal nature. Nevertheless, it has a positive effect on the growth processes of root tissues in the early stages of plant development. Apparently, this effect is due to the action of the complex of microelements, which move into aqueous extract and then enter the seed tissues and include in biochemical processes.

A close relationship was established between the EC of water extract index and the laboratory germination of tomato seeds (r^2 = 0.91), the length of the sprout root (r2 = 0.79), the growth activity of the root tissues (r^2 = 0.75). This proves the positive effect of water-soluble zeolite components on the physiological processes occurring in plant tissues. Enrichment of substrates with zeolite allows activating growth processes at the initial stages of ontogenesis after seeds germination.

The stable biological effectiveness of zeolites was observed in all experimental variants. However, in aqueous extracts with its addition of 1 to 10 g/l, the laboratory germinability and growth activity increases, and at the rate of 15 and 20 g/l remains at the

same level. The maximum biological efficiency is observed in the variant of aqueous extract of 10 g/l zeolite for all the investigated parameters. It can be recommended to use this option in practice to stimulate the germination of tomato seeds.

Treatment of tomato fruit with zeolite has been poorly studied, although it is a very effective and efficient method of reducing losses and prolonging the shelf life by many indicators [11]. This feature is due to the high content of zeolite clinoptilolites. These compounds have porous structure of the crystal lattice and possess a moisture adsorbing. During storage tomato fruits evaporate water, which condenses on the surface of the skin and leads to the development of the pathogenic microflora. Zeolites are able to absorb and bind excess moisture, improving the storage conditions of fruits (Table 3).

Table 3 – Effect of zeolite on the water regime of tomato fruit under different storage conditions

Variant	Loss of moisture,%	Development of rot, score	Duration of storage unchanged, days	Exceeding control, times
Fruits of tomato, processed with zeolite, storage at a temperature of 24-25 °C	13.6	1.9	8	2.7
Tomato fruits without treatment (control), storage at temperature 24-25 °C	24.9	3.7	3	-
Tomato fruits, processed with zeolite, storage at temperature 4-5 °C	5.3	0.6	23	2.1
Tomato fruits without treatment (control), storage at temperature 4-5 °C	16.1	2.4	11	-
Smallest significant difference (0,05)	0.12	0.02	-	-

It has been established that the coating of fruits with zeolite with particle size of 0.001-0.0001 mm positively affects both the hydration of the skin tissues of the fruit surface and suppresses the development of pathogenic microflora.

Excessive moisture leads to increased respiration, lower dry matter content, sharp deterioration in quality and loss of product. When storing fruits, it is important to properly regulate the water regime of tissues. Zeolite provides both the absorption of excess moisture formed during evaporation, and its return back to the deficit in the epidermis and flesh. Under storage conditions at a temperature of 24-25°C, the loss of water in fruits covered with zeolite is reduced 1.8 times, and the stable course of physiological processes occurs when stored for up to 8 days. Low temperatures of 4-5°C reduce moisture loss by 35.3%. However, the use of a coating of zeolite enhances the moisture-saving effect by a factor of 3.

When the fruit surface is powdered with zeolite, the development of pathogenic microflora causing rotting is suppressed. The development of fruit rot was reduced with warm storage by 48.6%, and in the cold - by 75.0%. This prolonged the storage period of tomato fruits in 2.1-2.7 times.

CONCLUSION

Improving the water regime of the epidermis is achieved by creating favorable humidity conditions around the fruit, excluding the condensation of water on their surface. In addition, the stimulator of fruit ripening, destruction of starch molecules into mono- and disaccharides is ethylene, which is released as a result of respiration. Zeolite adsorbs this substance on the crystalline lattice of clinoptilolite, preventing softening of the fetal tissues as a result of their maturation. Thus, positive effect of zeolite on the physiological processes of plant tissues was revealed. A stimulating effect on the growth processes of root tissues of tomato seedlings was established. In the composition of soils for greenhouses, the zeolite stabilizes the pH and the EC providing favorable conditions for the development of plants. The use of zeolite to prolong the shelf life of tomato fruit has shown high efficiency. Biologically active

adsorbent, due to the combined effect of chemical and physical adsorption of natural clinoptilolites included in its composition, provides favorable water regime of fruits during storage.

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FROM TRADITIONAL RECIPES TO BIOLOGICALLY COMPLETE FOOD PRODUCTS: REVIEW ON SNACKS EXTRUSION

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ABSTRACT
Increasing consumption of light complete foods, convenient as fast food or snack foods, is one of the trends in the food market development. On the one hand, this trend associated with the healthy lifestyle popularization, and on the other hand, with the accelerated pace of modern society life. Thus, the energetic value of snack foods (snacks) is gradually replaced by requirements to their biological value. A highly efficient extrusion process allows producing biologically completed snacks with properties attractive to consumer.

KEY WORDS
Extrusion, snack products, technological process parameters, biological value, expanded snacks.

The accelerated rhythm of modern society life resulted in the popularity of fast food products. One of the most promising segments on the fast food market is the segment of snacks (snack foods).

Snacks are small lightweight quite simply cooked ready-to-eat foods. At the moment, the ability to satisfy the organoleptic feelings of the consumer is one of the most important quality indicators of snacks.

The entire assortment of snack foods can be divided into sweet (corn, popcorn, cookies, wafers, marmalade, chocolate bars) and salty (chips, extrudates, nuts, crisps, crackers, dried fish, jerky, smoked cheese and others) snacks.

The main criteria for snack foods are convenience of use, attractive appearance and texture, ease of adjusting the serving size.

Many researchers [1, 2] note the high content of sugar, salt and fats in snack foods, increased caloric content and biological incompleteness which affects human health negatively. Taking into account the worldwide growth of the popularity of healthy lifestyles, the demand for such "not healthy" snacks will decrease and for biologically complete snacks will grow.

It is possible to solve the above problems of snack foods incompleteness by combining the selection of recipe components and processing method.

The production of snack foods by extrusion is one of the most modern and perfect methods. Extrusion processing allows you to produce snacks with good organoleptic properties, which are so important for the consumer, without frying in oil, sugar panning or flavoring additives.

Extrusion of snack foods includes the influence of the prescription mixture of various complex physical processes on the ingredients: mixing, transporting, boiling and homogenizing at excess pressure. In the last stage, the treated mass is forced through the forming matrix and takes the form, texture and size that consumer expects to see [1].

Extrusion processing is becoming increasingly popular in comparison with traditional processing methods due to its automated control, high productivity, process continuity,

flexibility and adaptability, energy efficiency, low cost.

The composition of snack foods can be reworked in such way that snacks still meet the requirements of high appeal to the consumer, but will contain ingredients that make them more complete.

Extruded snack foods consist mainly of cereals, starches, and / or plant and animal proteins. The main role of these ingredients is to provide the necessary structure, texture, taste and density [2].

Wheat, rice, corn or barley flour and their combinations with accompanying products of vegetable, fish and meat processing are used in the production of extruded snacks.

Rice flour is an attractive base ingredient for the production of extruded snacks due to its unique properties, such as soft taste, attractive white color, hypoallergenicity and good digestibility. At present, there is large number of research on the extrusion of rice flour for the production of snacks [2, 3].

One of the most cultivated starch cultures in Russia and Belarus is potato, but the process of extruding potatoes for the production of snack foods around the world is not studied well enough, the research studies of Nath and Chattopadhyay, Cheyne, Barnes, Nenakhov R.V. and Ostrikov A.N. are devoted to this problem [4-7].

Another common ingredient of extruded snacks is legumes. They provide a good extrudate expansion and are considered the valuable source of protein [6-8]. For the legumes the advantages of extrusion are particularly important - partial or complete inactivation of some anti-nutrient compounds that limit the wide use of legumes.

Sucrose is a standard additive to sweet extruded snack foods and is included in these products in a ratio of up to 50% by weight. However, a number of researchers [2, 9] note that even low sucrose concentrations (up to 12%) in the presence of moisture (20%) significantly reduce the expansion, increase the mechanical strength of the extrudate and dough viscosity.

At present, the development of recipes for snacks enriched with valuable nutrients, but not of high cost is especially relevant. This is achieved by adding to the recipe accompanying products of processing fruits, berries and vegetables, as sources of minerals, vitamins and dietary fibers.

Thus, in snacks enriched with dietary fiber from vegetable and fruit waste [10, 11] higher content of dietary fibers, better ratio of soluble and insoluble fibers than in snacks enriched with dietary fiber from cereal bran was noted. Some researchers [12] studied the addition of waste from tomato processing to traditional starch extruded snacks. Also, Stojceska [13] found out that the addition of spent brewing malt increases the protein and phytic acid content significantly and reduces the expansion index.

The recipes of modern snacks are quite diverse due to the fact that extrusion makes it possible to adjust the traditional grain recipes of snacks easily, enriching them with valuable food substances from raw materials rich in proteins and dietary fibers including the accompanying product of other food products processing.

Extrusion processing of food products has been used for more than 50 years. Nowadays the range of extruded food products includes more than 400 items and snack foods is one of them [2].

Extrusion is the process of forcing material to flow under various process parameters through a forming hole (matrix) at a given speed [1].

At present, the following types of extrusion are distinguished: cold - it is characterized only by mechanical influence on raw materials by humidity of 30-60%; warm - it is characterized by mechanical and thermal impact on the raw material moistened to 20-30%, as a result, a low-density extrudate (unexpanded pellets) is formed; hot - it is characterized by a significant transfer of mechanical energy into thermal energy, high speeds and pressures, regular supply of heat from external sources, accompanied by deep estates of quality raw materials with the moisture content of 10-20% (expanded snacks) [7, 14].

Raw materials processing for snack products by extrusion methods is caused by a high economic effect, which is achieved by replacing the large complex of production equipment with one machine i.e. extruder [7]. Nowadays extruders are considered as high-temperature,

short-term bioreactors, which convert raw ingredients into modified semi-finished products and finished products.

In the extrusion process, thermal and shear energies are applied to the raw material causing structural and chemical transformations, changes in the biological value of the product. If you analyze these changes in more detail, you can identify that during the extrusion process there is breakdown of starch grains, starch gelatinization, denaturation of proteins, fat oxidation, destruction of vitamins, antioxidants, phytochemicals, flavoring, increased mineral bioavailability and solubility of dietary fibers. Extrusion helps to modify the structure, improve solubility and swelling, viscosity, water conservation capacity [1, 15].

Characteristic of extruded starch snacks microstructure shows that the raw material underwent macromolecular destruction, reflected as a change in melt rheology and functional properties of the product such as water absorption, water solubility, dispersion viscosity, oil absorption index, bulk density, expansion index and dough viscosity [16].

It is important to understand that in products, where the consumer wants to see the expanded structure, the texture is most important and the crunchiness becomes one of the most important attributes [3].

Mechanical properties of extruded snacks are also one of the key quality indicators; they determine the convenience of consumption, storage and transportation of snacks [10].

The water absorption index (WAI) and water solubility index (WSI) characterize how extruded products will interact with water and are important in predicting the behavior of the material if it is subjected to further processing.

In the process of snacks extrusion, expansion is critically important feature describing the quality of the product and directly related to the degree of its readiness. Numerous theories and models were proposed to describe extrudate expansion [10, 17]. The increase in bulk density is connected with decrease in the expansion coefficient and vice versa. Expansion of the extrudate depends to the greatest extent on the moisture content of the material and the extrusion temperature. Extension of the extrudate was investigated by Zhu L.J. and Wang N. [16, 18], also general extrudate expansion model was developed by Cheng H., including radial, longitudinal and volumetric extensions [17]. In most of these studies, radial expansion was used as a measure of the quality of extrudate expansion.

Thermal and mechanochemical effects that occur during extrusion change the rheological properties of the raw materials. In works [10,18,19], the effect of moisture content in raw materials, the presence of additives and operating conditions of the extruder on the viscosity characteristics of extruded snacks were studied.

The composition and humidity of the compound mixture, temperature, pressure, duration and intensity of its exposure are variable parameters in the process of extruded snacks production.

The temperature of the extruder body is an important parameter that determines the quality of the extruded product. In the study [18,19], the temperature in the last two zones and the speed of feed auger were selected as varying operating parameters of the process, while the mixture moisture and feed rate were maintained at constant level. It was found that simultaneous increase in the temperature and velocity of the auger leads to expansion coefficient increase and decrease in the bulk density and shear tension. Number of scientists note that the high moisture level of mixture in combination with high temperature leads to increase in density and hardness, decrease in the expansion coefficient of chickpea [17] and corn [19] snacks.

The moisture content is also one of the key parameters of the extrusion process, since it determines the texture, color and snacks expansion coefficient. In studies [1,20], it was found that the increased moisture content of the mixture reduces the radial expansion ratio of the extrudates, which results in a higher apparent density, tensile strength and lower porosity values. Cupta studied the effect of feed rate, humidity of the mixture and the temperature of the extruder body on the various extrudate characteristics, and scientists found that the moisture content of the raw materials had the greatest impact [12].

It was established that the size of the raw material particles is also the factor determining the structure of the snack. Thus, the soft texture of product is the consequence

of the fine granulation of raw material, and the crunchy texture is the consequence of large granulation [21].

Satisfaction with the ever-changing demands of the food market requires a continuous improvement in the technology of production and searching new ingredients, including products connected with the processing of other types of food raw materials. Extrusion processing for the production of snack foods as environmentally safe, resource-saving and universal process that allows to obtain well-assimilated, heat-sterilized food products with improved taste properties, causes in this sense especially close attention.

Extrusion is currently one of the most effective ways to develop products with balanced recipes and allows them to be easily enriched with proteins, vitamins, food fibers. So it seems advisable to solve actual problems with this technology - to create snack foods that don't have disadvantages of traditional fast food, that is, to ensure the production of snack foods with regulated food, biological and energy values [5].

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