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TABLE OF CONTENT

Badri M., Lubis D.P., Susanto D., Suharjito D.

THE VIEWPOINT OF STAKEHOLDERS ON THE CAUSES OF FOREST AND LAND FIRES IN RIAU PROVINCE, INDONESIA; pp. 4-10

Crossref DOI: 10.18551/rjoas.2018-02.01

Rahmi P.A., Cahyaningrum D., Putri K.W., Listiyawaty Y.

MEANING OF CAROK FOR MADURANESE (INDONESIAN TRIBE): A CASE STUDY IN SAMPANG, MADURA ISLAND; pp. 11-16

Crossref DOI: 10.18551/rjoas.2018-02.02

Kusumah E.P.

TRADING CHANNEL PATTERN OF CASSAVA COMMODITY: DOUBLE ROLES FOR THE FARMERS – IS IT A BENEFIT? pp. 17-22

Crossref DOI: 10.18551/rjoas.2018-02.03

Mardian M.T., Astuti E.S., Rahardjo K.

GENERAL DESIGN OF DECISION SUPPORT SYSTEM TO SUPPORT BUSINESS AGILITY: A CASE STUDY AT MINING SERVICES COMPANY; pp. 23-32

Crossref DOI: 10.18551/rjoas.2018-02.04

Risma N., Asmony T., Nurmayanti S.

THE ROLE OF ORGANIZATIONAL COMMITMENT MEDIATION ON THE EFFECT OF PERSON-ORGANIZATION FIT AND JOB SATISFACTION TO TURNOVER INTENTION; pp. 33-40

Crossref DOI: 10.18551/rjoas.2018-02.05

Nurlaily F., Aini E.K., Asmoro P.S.

DOES FAMILY SOCIAL SUPPORT AFFECT STARTUP BUSINESS ACTIVITIES? pp. 41-54

Crossref DOI: 10.18551/rjoas.2018-02.06

Fathurrahim, Nimran U., Arifin Z., Musadieg M.A.

INFLUENCE OF TRANSFORMATIONAL LEADERSHIP, TRUST AND EMPLOYEE EMPOWERMENT ON CORPORATE PERFORMANCE THROUGH INNOVATION AND REPUTATION IN MEDIUM AND LARGE ENTERPRISES; pp. 55-66

Crossref DOI: 10.18551/rjoas.2018-02.07

Suprawa T.A., Brahmasari I.B., Brahmaratih I.A.

EFFECT OF COMPETENCE, LEADER-MEMBER EXCHANGE AND TEAMWORK ON WORK DISCIPLINE, JOB STRESS AND THEIR IMPACT ON EMPLOYEE PERFORMANCE OF CONSTRUCTION COMPANY IN EAST JAVA, INDONESIA; pp. 67-78

Crossref DOI: 10.18551/rjoas.2018-02.08

Ranatarisza M.M.

WHETHER BOOK TAX DIFFERENCES AFFECT THE PRICE BOOK VALUE? pp. 79-89

Crossref DOI: 10.18551/rjoas.2018-02.09

Taslim F.A.

THE INFLUENCE OF ECONOMIC VALUE ADDED AND MARKET VALUE ADDED ON CORPORATE VALUE; pp. 90-98

Crossref DOI: 10.18551/rjoas.2018-02.10

Asnawati, Wahyuni S.

THE INFLUENCE OF HEDONIC SHOPPING MOTIVATION TO THE IMPULSE BUYING OF ONLINE-SHOPPING CONSUMER ON INSTAGRAM; pp. 99-107

Crossref DOI: 10.18551/rjoas.2018-02.11

Endayani F., Musadieg M.A., Afrianty T.W.

THE EFFECT OF QUALITY OF WORK-LIFE AND MOTIVATION ON EMPLOYEE ENGAGEMENT WITH JOB SATISFACTION AS AN INTERVENING VARIABLE; pp. 108-114
Crossref DOI: 10.18551/rjoas.2018-02.12

Hanopia B.L., Surasni N.K., Hidayati S.A.

INVESTMENT DEPOSITS DECISION-MAKING IN BANK: A BEHAVIORAL FINANCE PERSPECTIVE; pp. 115-124
Crossref DOI: 10.18551/rjoas.2018-02.13

Nasution L.Z.

ISSUES AND CHALLENGES FOR DEVELOPING CORPORATE SUKUK: LESSONS FROM AN INDONESIAN CASE STUDY; pp. 125-141
Crossref DOI: 10.18551/rjoas.2018-02.14

Agustina F., Yulia, Astuti R.P.

ANALYSIS OF SUPPLY CHAIN NETWORKING FOR MUNTOK WHITE PEPPER IN THE PROVINCE OF BANGKA BELITUNG ISLANDS; pp. 142-147
Crossref DOI: 10.18551/rjoas.2018-02.15

Irwan

ANALYSIS OF ORGANIZATIONAL CULTURE, COMPETENCE AND WORK MOTIVATION: THE EFFECT ON SATISFACTION AND PERFORMANCE OF GOVERNMENT EMPLOYEES OF PAREPARE; pp. 148-155
Crossref DOI: 10.18551/rjoas.2018-02.16

Saida Zainurossalamia Z.A., Heksarini A., Sudarsono S.

THE INFLUENCE OF ECO-AIRPORT AND MALL-AIRPORT CONCEPTS AND CULTURAL DISPLAY OF EAST BORNEO ON VISITORS' SATISFACTION AT SULTAN AJI MUHAMMAD SULAIMAN AIRPORT BALIKPAPAN; pp. 156-164
Crossref DOI: 10.18551/rjoas.2018-02.17

Finanda Y.D., Lutfi

THE INFLUENCE OF EMPLOYEE JOB SATISFACTION AND SERVICE QUALITY ON PROFITABILITY IN PT. BANK JATIM: CUSTOMER SATISFACTION AS THE INTERVENING VARIABLE; pp. 165-169
Crossref DOI: 10.18551/rjoas.2018-02.18

Suraji, Putra A.B., Embi M.A.

THE DEVELOPMENT OF REGIONAL EXPANSION APPARATUS RESOURCE PLACEMENT IN INDONESIA; pp. 170-178
Crossref DOI: 10.18551/rjoas.2018-02.19

Eviyanti Y.N., Suhartono, Kristijadi E.

THE EFFECT OF CREDIT RISK ON BANK PROFITABILITY WITH EFFICIENCY AS THE INTERVENING VARIABLE; pp. 179-186
Crossref DOI: 10.18551/rjoas.2018-02.20

Navy S.K., Iramani R.

THE EFFECT OF GOOD CORPORATE GOVERNANCE, CAPITAL ADEQUACY, LIQUIDITY AND NON-PERFORMING LOAN ON BANK PROFITABILITY IN INDONESIA; pp. 187-195
Crossref DOI: 10.18551/rjoas.2018-02.21

Sumargo

THE CORRELATION OF CORPORATE CULTURE, INTERPERSONAL RELATION AND PERFORMANCE APPRAISAL SYSTEM TO OBJECTIVITY OF PERFORMANCE APPRAISAL IN COMPANY; pp. 196-207

Crossref DOI: 10.18551/rjoas.2018-02.22

Maskur

THE INFLUENCE OF ENTREPRENEURIAL ORIENTATION ON BUSINESS STRATEGY AND PERFORMANCE OF MEDIUM-SMALL SCALE SASIRANGAN INDUSTRIES IN SOUTH KALIMANTAN PROVINCE; pp. 208-216

Crossref DOI: 10.18551/rjoas.2018-02.23

Afandi M., Suwanto, Lestari E.

PARTICIPATIVE MAINTENANCE OF UPSTREAM PUSUR SUB WATERSHED AREA THROUGH THE CONSERVATION FIELD SCHOOL IN MRIYAN VILLAGE OF BOYOLALI DISTRICT, INDONESIA; pp. 217-223

Crossref DOI: 10.18551/rjoas.2018-02.24

Pollo R., Sitompul S.M., Guritno B., Tyasmoro Y.S.

CROP GROWTH PARAMETERS OF GRAIN SORGHUM VARIETIES (SORGHUM BICOLOR (L.) MOENCH) AT DIFFERENT CROP SPACING; pp. 224-233

Crossref DOI: 10.18551/rjoas.2018-02.25

Eka S.H., Fadholi M.R., Sanoesi E.

THE EFFECT OF IMMERSION LENGTH IN PAPAYA LEAF SOLUTION (CARICA PAPAYA L.) TOWARD FERTILIZATION AND HATCHING OF IRIDESCENT SHARKS (PANGASIANODON HYPOPTHALMUS S.); pp. 234-238

Crossref DOI: 10.18551/rjoas.2018-02.26

Fanni N.A., Soeprijanto A., Fadholi M.R.

ABALONE (HALIOTIS SQUAMATA) ANESTHESIA WITH ETHANOL ON GRADING PROCESS; pp. 238-242

Crossref DOI: 10.18551/rjoas.2018-02.27

Efrita E., Kurniati N., Feni R., Marwan E., Mufriantje F.

DETERMINANTS OF THE DOMESTIC RICE PRODUCTION FOR NEEDS OF POPULATION OF THE BENGKULU PROVINCE, INDONESIA; pp. 243-250

Crossref DOI: 10.18551/rjoas.2018-02.28

Nurmalita D., Nasukib, Rumayasab I.G., Susenob A.

STUDY ON THE ABUNDANCE OF HETEROTROF BACTERIA ON LEAF LITTER MANGROVE IN COAST AREA SEDATI-SIDOARJO OF EAST JAVA; pp. 251-256

Crossref DOI: 10.18551/rjoas.2018-02.29

Laishevtcev A.I., Kapustin A.V., Palazyuk S.V., Matyash A.E.

ETIOLOGICAL STRUCTURE OF STREPTOCOCCOSIS OF PIGS IN VARIOUS REGIONS OF THE RUSSIAN FEDERATION; pp. 257-260

Crossref DOI: 10.18551/rjoas.2018-02.30

Qusairi A.

INCREASING NUTRITIONAL CONTENT OF ARTIFICIAL FEED WITH WHOLE SPORE PROTEIN OF MYXOBOLUS KOI AS AN IMMUNOSTIMULANT ON GOLDFISH (CYPRINUS CARPIO L.); pp. 261-268

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THE VIEWPOINT OF STAKEHOLDERS ON THE CAUSES OF FOREST AND LAND FIRES IN RIAU PROVINCE, INDONESIA

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ABSTRACT

Riau Province is one of the prone areas of forest and land fires in Indonesia. Fires began to grow since the 1980s as deforestation and the clearing of palm oil plantations occurred. The peak of a major fire was happened before the study was taken from 2014 to 2015 and caused a smoke haze for months. This study aims to determine the factors causing forest and land fires in Riau in the viewpoint of stakeholders. The research is conducted by using qualitative methods by exploring stakeholder viewpoint through semi-structured interviews on actors representing government, companies, research institutions, NGOs, mass media and community groups. The results show that all stakeholders have the same viewpoint regarding the cause of human-fire perpetrators. Burning is largely done intentionally in open access areas, disputes, concessions, corporate land, and community lands. Fires continue to occur due to lack of oversight by authorities, massive peatland clearance, deforestation, increased permission for forest or land management for political costs, land disputes, human negligence and weak law enforcement.

KEY WORDS

Forest and land fires, smoke disaster, Riau fires, viewpoint, stakeholders.

Indonesia has a long history of forest and land fires. Forest fires in Indonesia have occurred since the 1970s. The first was caused by intentional factors such as local people did clear the fields with forest burning, campfire hunters, to camping people in the forest. The most severe fires occurred in 1972 and 1976 due to forest fires. The site of the fire was mostly located in Java, Borneo and parts of Sumatra, causing most of Sumatra and surrounding islands covered by smog making the visibility distance of less than 100 meters. In October 1972 almost all of Sumatra and the islands of the east coast except the northern and southern edges, and a small portion of the western coast and parts of West Kalimantan and Malaysia were covered in smog (Kompas, 2016).

Non-governmental organization (NGO) monitors the oil palm plantation industry, mention forest and land fires in Riau also occurred in 1982/1983 with an area of 3,600,000 hectares (ha), in 1987 with an area of 66,000 ha, in 1991 with an area of 500,000 ha, in 1994 with an area of 5,110 Ha, and 1997/1998 with an area of 10,000,000 ha. The case during the 1980-1990s period had not been responded in the form of specific and clear law policies. At that time, the government had not yet seen forest fires as a problem that needed to be responded to through regulatory significance. In practice, the handling of forest fires was performed by the Ministry of Forestry and land fires by the Ministry of Environment (Sawit Watch, 2014).

Land and forest fires in Riau continued that the expansion of oil palm plantations land by plantation corporations happened from the 1980s. Fires in Riau had been in the spotlight

since the 1997-1998 incident due to the widespread fires in Indonesia as a result of the long drought. By early 1998, nearly 10 million ha had been affected by fires causing a range of damages estimated at nearly 10 billion dollars. Smoke from the fires caused most of Southeast Asia to fog up to several months (FWI, 2001). The widespread to this incident has been attention issue in 1999 when the smog reached Malaysia and Singapore. In 2013, smoke haze occurred twice a year, a different phenomenon than in previous years which only occurred once a year (Tampui, 2014). In the event of 2014 the loss and deprivation due to Karhutla Riau reached 935 million US dollars (World Bank, 2014). In 2015, the total loss was Rp 221 trillion (World Bank, 2015).

Based on this background, the formulation of this research problem is how stakeholder viewpoint is about the causes of forest and land fires in Riau Province. This study aims to determine the factors causing forest and land fires in Riau in the viewpoint of stakeholders. Literally, viewpoint is the fruit of thought or approximation of a thing (in Indonesian dictionary). The viewpoints are active responses to stimuli, responses are made through personal interpretations that are derived and form an image. Each viewpoint reflects a complex organization consisting of three components of trust, value, and expectation (Nimmo, 2006). Berger & Luckmann (1991) in *The Social Construction of Reality: A Treatise in the Sociology of Knowledge* reveals that the same view expressed by many people that has a greater weight than one. The subjective crystallization of results from these various definitions of reality will determine the tendency of one's reaction to a problem.

METHODS OF RESEARCH

The study was conducted in Riau Province from December 2016 to August 2017. The deliberation of selecting the site, it is because Riau is a prone area of forest and land fires in Indonesia. Research is designed with a qualitative approach to gain an in-depth understanding of a problem (Denzin & Lincoln, 2005). The viewpoints about the causes of fires are extracted through semi-structured interviews against forest and land fire stakeholders consisting of government representatives, companies, research institutes, NGOs, mass media and community groups. Researchers also extract the secondary data from government agencies, research reports, NGOs and the mass media. The data collected then is processed and analyzed using interactive data model analysis with three steps: data condensation, data presentation and conclusion / verification (Miles et al., 2014).

RESULTS AND DISCUSSION

Forest and land fires are generally affected by two main factors, namely climate conditions and human activities in forest and land management. The cause of fire in Indonesia is almost entirely derived from human activities (99%), whether intentionally or not. Land conversion activities accounted for 34%, wild inflammation for 25%, agriculture for 17%, social jealousies for 14%, and transmigration projects for 8%. Another factor causing the greatness of forest and land fires is the source of energy in the form of timber, felling, coal deposits, and peat (BNPB 2013). In addition, massive deforestation in Riau since the 1980s has been the cause of frequent fires. According to data from the Palm Oil Agribusiness Strategic Policy Institute (PASPI), based on Indonesia's Vegetation Map, in 1950 forest area in Riau reached 8.7 million hectares, in 1985 it shrank to 5.07 million ha, and 2014 it remained to 2.5 million ha. Thus, since 1950-2014, deforestation occurred in Riau reached 6.2 million ha. Deforestation in Riau prior to 1985 occurred as a result of logging activities that caused economic and ecological degradation, leaving critical, backward, poor and dead districts (PASPI, 2017).

The process of deforestation and degradation of natural forests in Riau is very fast. For 24 years (1982-2005) Riau Province has lost of natural forest cover of 3.7 million ha. In 1982, the natural forest cover in Riau still covered 78% (6,415,655 ha) of Riau's land area 8,225,199 ha (8,265,556.15 ha). Until 2005, the remaining natural forest was only 2,743,198 ha (33% of Riau's land area). During that period, Riau Province was regularly about 160,000

ha / year of natural forests annually and during the 2004-2005 period the lost natural forests reached 200 thousand ha. The proliferation of forestry industry in Riau has become one of the causes of natural forest degradation increasingly uncontrolled. Until 2000, the number of forestry industries operating in Riau reached 312 units consisting of 10 units of plywood industry, sawmill 270 units, molding 27, chip mill 3 units and 2 units of pulp and paper industry (Jikalahari, 2014).

The data of KLHK (2016a) and KLHK (2016b) indicate an increase in the number of hotspots and fire area in Riau with its peak in 2014. Number of hotspots were in 2011 (6,849), 2012 (7,826), 2013 (15,089), 2014 (22,588) and 2015 (7,262). Then the land burnt in Riau was in 2011 (74.50 ha), 2012 (1,060 ha), 2013 (1,077.50 ha), 2014 (1,077.50 ha) and 2015 (6,301.10 ha). The data, when paired with deforestation data in Riau (Jikalahari, 2014), is increasing annually, there is a significant relationship between forest destruction and the potential for fire (Figure 1).

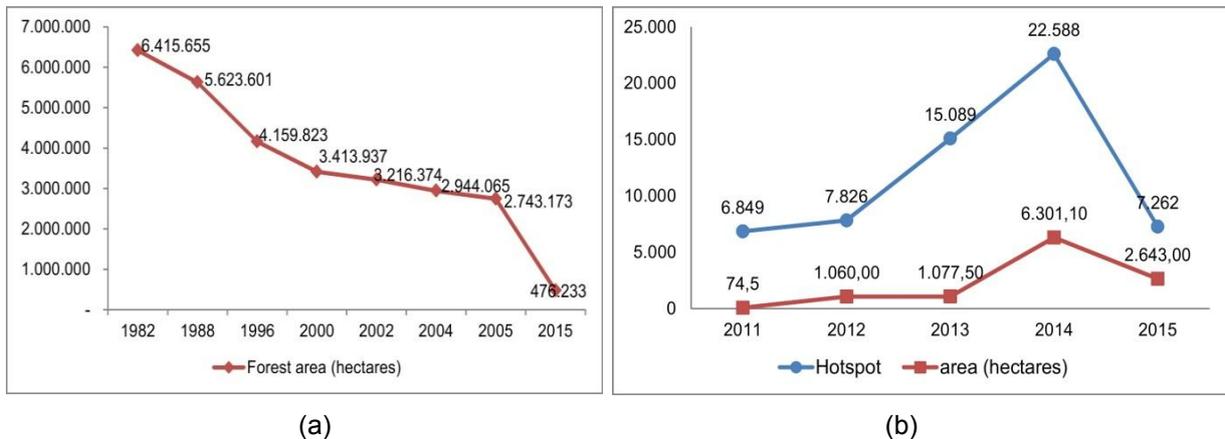


Figure 1 – Deforestation in Riau (a) and hotspot data and fire area in Riau in 2011-2015 (b).

Deforestation in Riau causing economic and ecological degradation is overcome by the clearing of oil palm plantations. In this case, it comes to the construction of social reality to the problem of fire in Riau. Logged-over land used for logging can not be directly planted with oil palm due to shrubs and forests. The process of clearing land of the plantations breaking in the 1980s and 1990s still legalized the burning and even became the standard operation of the plantation companies. In that period researchers looked at forest and land fires associated with deforestation processes for logging and oil palm plantations. The process of plantation land clearing is generally executed by cutting down the remaining forest for the plantation area, until summer comes then it is burnt. After the large wood is burnt and then it hacks and burns until it is ready to plant the oil palm. The impact of burning on minerals at that time is not as severe as in peatland because after the heavy fires occurred, usually it will come to heavy rain. The impact of smoke is also only experienced by people around the burnt area.

In the absence of controlled firing patterns and adequate law enforcement, fires become uncontrollable, driven by drought and exacerbated by the influence of El Nino. Moreover, burning has long been a device of agriculture in Indonesia. Unofficially, the burning process also plays an important role in land clearing. So while many are harmed by the widespread of fires and haze, a number of parties have benefited enormously. Peatland drainage and conversion, driven primarily by palm oil production, it contributes to the increased smoke haze intensity of fires. Approximately 33 percent of the total burned land was peatland causing hazardous smoke (World Bank, 2016).

Research result of Permana & Kurniawan (2001) in Petapahan (Riau) explained that clearing of plantation forest area and oil palm plantation became one of the factors causing fire in this location. Most of the companies cleared and prepared the land using fire, which this system was performed before 1998. At that time, the government had not been incentive

to sanction to the perpetrators of forest and land burning in Indonesia. Although the government had banned the use of fires in the preparation of plantation land, it was less effective, as seen from the large number of firms operated fire in their land preparation activities. The ineffectiveness of the policy was mainly as the use of fire was economically very cheap and easy.

Research of Purnomo *et al.* (2017) in three districts in Riau also found that in addition to demographic or population factors, almost all research sites were linked to illegal logging activities in the past. The forest fire chain started from land claims, slash and clearing, burning, and planting oil palm or acacia. Land claims at the study sites indicated that they had appeared since 2004 and in some places also existed on several years earlier. Land claims involved local communities as well as those acting on behalf of local communities. The perpetrators linked to illegal logging activities were the key actors who knew the 'uninvest' areas or the abandoned 'owners' (open access). The area was finally contested and became a land claim event that later led to the sale and bargaining of land.

Research institutes that frequently conducts research on forest and land fires in Riau is the Riau University Disaster Studies Center (PSB) and the Center for International Forestry Research (CIFOR). In the viewpoint of the research institute, fires in Riau are complex, but the most dominant is the massive peatland clearance that is out of control. The absence of a fire control system causes a continuous fire incident to date. Before 1997, the companies and communities in Riau cleared the land by burning, but at that time the location was in the mineral land area. Forest fires and mineral land is the land where the wood or biomass is burnt down then the fire immediately goes out. Once the mineral land is depleted, the expansion of the land switches to the peat. Peatlands are different when it is burnt, especially during the dry season, even though the biomass is exhausted, peat soil remains burnt. The burns are identified as "invisible hands" playing behind the scenes so they are not reached. The main motive is due to economic factors for the clearing of oil palm plantations.

The government has the viewpoint that the most important factor to the occurrence of fire is human behavior. There are four sources of fire: fire, fuel, weather, and human behavior. The greatest cause of fire is human behavior. In addition, the condition of peat soil in Riau causes the fire to become more severe. Fires on community land are generally only existed in small spots. In addition, fires continues to occur due to lack of supervision. Actually, the perpetrators of burning know about the prohibition of burning forest and land. But the burning continues as the perpetrator has an interest, by burning the land, the costs are cheap and provide some benefits. Usually the perpetrator performs the burning after the patrol officers move away from the location. Seeing that condition, the disaster management authority in Riau wants a better monitoring and supervision system, especially in areas that are difficult to reach by patrollers.

Sawit Watch (2014) noted several aspects that perpetuate forest and land fires, among them: (1) releasing of licenses for oil palm plantations and other large-scale enterprises in peat ecosystems; (2) Non-optimal enforcement and legal supervision over the perpetrators of arson; (3) Responsible disposal for who was the perpetrator of forest and land burning as a result of legal loopholes; (4) expansion of oil palm plantations; (5) The existence of inequality of land tenure in areas of forest and land fires; (6) Sustainable palm oil certification did not positively correlate directly with the incidence of land fires in oil palm plantation concessions.

The phenomenon of forest and land fires had been the concern of NGO Jikalahari since its establishment in 2002. This NGO explains that in the last 20 years the hotspot map shows that most of them are located in areas where there are concessions or areas of forestry and palm oil companies. In the last 10 years there has been frequent fires in the company area as well as in areas infiltrated by encroachers and broker (individual capital owners) in conservation areas, national parks, wildlife reserves and protected forests. Most fires occur within forest areas, especially conservation areas and production forests. Then outside the forest area, the fires usually appears in oil palm plantations. Fires in forest areas and outside of the forest dominantly arise to forest areas occurred in the peatlands. Yayasan Mitra Insani (YMI), often conducting community empowerment activities in resource management and fire prevention, explains the rampant illegal logging after regional

autonomy causing high deforestation as a trigger of fire. The biggest cases of deforestation are usually in post general election and regional head elections (called *Pilkada*) as they relate to political costs. Increased deforestation occurs due to increased permissions for forest or land management for the clearing of oil palm plantations. Once permission is obtained, the owner of the concession then performs land clearing by burning.

Every fires in Riau companies are often accused of being perpetrators, especially companies engage in forestry and plantation sectors. However the company denies it. In their view, the fire actually compromises the company because it inhibits the production process. The forestry company describes having 'no burn policy' and sustainable forest management policy supervised by government authorities. Oil palm companies has certified Indonesian Sustainable Palm Oil (ISPO) and Roundtable on Sustainable Palm Oil (RSPO) certification programs, which one of the conditions is not allowed to burn. The company viewed the fire is caused by human activities, whether intentionally or not. Unintentional factors are, among others, the fire of hunters and anglers, or tosses of cigarettes. On the other hand, the deliberate factor is sabotaging on land claimed to the company owned in a state of disputation with a particular group. It also happens in the open acces around the company area.

Fires in rural areas according to the view point of the MPA (*Masyarakat Peduli Api - The Fire Care Community*) are caused by small-scale burning firewood to clean the shrubs and weeds. Problems arise when the farmer goes away and forget to extinguish the fire. As a result, within a few hours, fires are more severe if they occurred in peatlands, because even though the surface has gone out, but the fire in the ground is still burning. In addition, rural fires are common in open access areas around the village. Fires in these areas are difficult to be quenched because usually they are empty land and scrub with a very difficult location to access. Open access land is a former concession land and the abandoned past government program land and becoming into a dam field or scrub.

Mass media as a device of communication constructs the cause of forest and land fires in Riau. The mass media with editorial policy on environmental issues is Green Radio (GR). GR explains that the fire is deliberately performed by irresponsible parties. The perpetrators are the company or people who are paid by the company, as well as unscrupulous people. Burning is planned for business purposes, whether buying and selling land or plantation opening. Media investigations find most fires occurred in open access and concession areas, as well as a small portion of community land. Another factor that causes longevity of fires is the weakness of law enforcement as without good law enforcement, fires are never completed.

Table 1 – Social construction related to the cause of forest and land fires in Riau

| Stakeholders | The Viewpoint Construction | |
|-------------------------|----------------------------|-----------------------------------------------------------------------------------------------------------|
| | Actors | The Continue Causes of Fire |
| Government | Human | Lack of supervision on the burnt prone areas |
| Researcher organization | Human | Massive peatland clearance |
| NGOs | Human | The rise of deforestation due to increased forest or land management licenses relates to political costs. |
| Company | Human | Sabotage on the land belonging to the company in dispute and open access land around the company area. |
| MPA | Human | The negligence of local people using fire for land clearing later not to extinguish it. |
| Mass media | Human | Weak law enforcement |

From the above explanation, it can be taken that stakeholders has different construction viewpoints related to the causes of forest and land fires continuing in Riau, but all point to the same actors that was human. No fires in Riau caused by natural factors such as lightning and volcanic eruptions. Fires continues to occur due to lack of oversight by authorities, massive peatland clearance, deforestation, increased permission for forest or land management for political costs, land disputes, human negligence and weak law enforcement. Burning is largely performed intentionally in open access areas, disputes,

concessions, corporate land, and community lands. Combustion motives are vary, generally it is for plantation opening or raising the sale price of the land. Previous research has also supported these findings, for example, fires caused by some people assume that slash and burner systems are an easy, cheap and effective way of preparing land (Permana & Kurniawan, 2001). In terms of economy, land prices will soar if it is sold in 'ready to plant' where the land has been cleared and burnt (Purnomo et al., 2017).

CONCLUSION

Forest and land fires in Riau is a non-natural disaster phenomenon causing smog. Fires impact the environmental damage, economic losses, health problems and social activity disruptions. Forest and land fires in Riau have been going on for decades. According to stakeholder viewpoint constructions, fire actors are either individual or group of people, who burn intentionally. The viewpoints about motives are vary however they all refer to economic factors. The government has been for decades responded to this problem through post-fire prevention with the blackout. Though prevention activities are a better opportunity than blackouts with big cost. Integrated efforts have only been made by the government since the great fire incident of 2014 to 2015. Seeing human as the main cause, the prevention should involve human behavior intervention through communication, socialization, education and law enforcement. The actors that need to be involved include all stakeholders from government, companies, research institutions, NGOs, the mass media, to the community.

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MEANING OF CAROK FOR MADURANESE (INDONESIAN TRIBE): A CASE STUDY IN SAMPANG, MADURA ISLAND

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ABSTRACT

Carok is an expression of Madura's men to defend self-esteem when harassed by others men and symbol of virility even end by dying one or both. This action closely related to the cultural values that used as guidelines for the Maduranese behavior. Yet Carok cannot be equated with cases of criminal murder in general, it can be done with deliberation on both side. The purpose of this study is to know the history of Carok and how people interpret the tradition of Carok in resolving conflicts in society. The method used in this research is qualitative descriptive. Currently, Carok is interpreted as a mechanism of conflict resolution to uphold individual or family self-esteem; instead the closer family from dying fighter such as son, father and brother could fight back the murderer. It is because Maduranese believes that their self-esteem is more valuable than life. The references to the carok are limited; the writings of ancient times vary in depicting the history of Carok itself. The informants stated that Carok does not happen as often as in the past because young generation today has better education.

KEY WORDS

Carok, Maduranese, culture, crime, defense of self-esteem.

Society and custom are two things that cannot be separated. Interestingly, each community group has different customs so that it becomes the hallmark of the group. In Indonesia for example, The Madura tribe that has a distinctive characteristic with dialect, appearance, work, clothes and so on. The Maduranese community in Indonesia is known as a society that has strong character, unique, stereotypical, stigmatic and distinctive culture. Those typically refer to Maduranese entity has a cultural specialty unlike the ethnography of other communities in Indonesia (Alwi, 2001). The Maduranese cultural differences or uniqueness often is led other ethnic groups Maduranese seeing this as absurd behaviour. For example, Maduranese are known as cranky, and then choose the alternative solution to their irritation through physical violence, usually a Carok (Taufiqurrahman, ND).

Carok is an action or assassination attempt using a sharp weapon, generally sickle among two men who one of them considered to harass self-esteem. The motive or background of the Carok event is mostly due to problems of disruption wife or fiancée, misunderstanding, seizure of land or inheritance, bad debts and other unknown reasons. Carok in the phrase Madura likened to "Lebbi Bagus Pote Tollang atembang Pote Mata" which means (Better to die, than live to bear the shame) (Wiyata, 2002). Carok is at the crossroads of tradition in society and Carok as a form of violent crime that is very disturbing to society as well as actions that are not justified by the State and religion as classified to the act of vigilante.

The tradition of Carok by people outside Maduranese is understood as a peculiarity of customs and also legal violations that are legalized by society. So that Maduranese people in some areas imaged as a impolite, rude, violent, and cranky. However, not infrequently all people label that, that images will be gone after they make real communication with Maduranese. The background makes author interested to study Carok in Maduranese perspective by focusing on the study of how the history of Carok, and how Maduranese people interpret the Carok currently because of the difference Carok meaning today from the past and how people suggestion to minimize Carok Case. So this study is expected to give a

complete picture of the Carok that is understood by Madura community so that all people and reader can open their minds if Maduranese has a good attitude and characteristic.

LITERATURE REVIEW

The most powerful and prominent labelling of Maduranese ethnic group is physical violence that leads to fighting armed with sickle popularly known as Carok. Carok tradition in Maduranese community is a manifestation of the desire to defend self-esteem and family honour. The use of Carok tradition is expected to rehabilitate the impact of self-esteem harassment, otherwise, the family honor in the community's view has no value (Safioedin, 1979).

All of Carok's cases are initiated by specific conflict such as the occurrence of disturbing a wife by other man, fraud accusations, seizure of inheritance, vengeance), all of them are referring to the same thing that is harassment of self-esteem (dignity). To recover their harassed self-esteem, they do Carok, which is always supported by social environment. The man who success loses their enemies shows a feeling of relief, satisfaction and pride (Wiyata, 2002). Wiyata continues, the occurrence of Carok is closely related to a lot of conditions, such as, first, the socio-cultural conditions that bring a hoodlum into social status at the upper level in the social structure of Maduranese community. Second, the condition of some judicial officers' behaviour that do not consistently apply and enact laws in accordance with legislation, so that the legal judgments taken are very unsatisfying the sense of justice for local communities. Third, until now, socio-cultural conditions in Madura have not known any institution that serves and acts as a deterrent or antidote to the occurrence of Carok (Wiyata, 2002). Ignoring the facts, Maduranese seem to have two opposing personalities. They do not hesitate to easily shed blood if their self-esteem and honor are disturbed. The stubborn is reflected in Carok. On the contrary, they have the tenderness of the yarn-like nature which is reflected in Maduranese attitude of life which assumes that all people are brothers (Abdurrahman, 1979).

The study of Carok has been done by Hidayat with the title of "Philosophy of Carok Study on The Nature of Appreciation and Disharmony in Carok Tradition". This research is a literature research. Research shows, the nature of Carok tradition in terms of ontology, the cause of Carok is based on self-esteem and socio-cultural factors. Epistemologically, Carok is an instrument to maintain self-esteem must be done in order for an individual to be respected and acknowledged as a worthy party. Axiologically, self-esteem has a spiritual and socio-cultural value containing an ethical value (Hidayat and Lasiyo, ND).

METHODS OF RESEARCH

This researcher uses the qualitative methodology, collecting data from informants on descriptive data in the form of written or oral words of people and behaviour that can be observed thoroughly about the form, function and meaning of the expression (Robert and Taylor, 1975). This research chose two villages in a sub-district in Sampang. Those are Pekalongan Village, Sampang District and Temoran Village, Omben District, Sampang regency by consideration of the perspective diversity of people who live in the main city of Sampang and people in the suburb. Types of data obtained from this study are primary data obtained through observation and interviews with the people of Sampang and secondary data from mass media and other supporting literature such as books or scientific journals.

Determination of informant used in this research is purposive and developed with the snow ball. The selected Key informants were local village apparatus: Mr Nurcholis as a staff of Pekalongan Village Office and Mrs Waysas who was appointed directly by Temoran village head because at the time of data collection the village head was out of town. Then the deeper information is searched to other informants in the village of Pekalongan, they are Umi Siti, Mr Jamaludin, Ustad Zaini, Mrs Lilik, Nur Cholis and informants from Temoran Village, Waysas, AR, Umar Neto, Sukron, Ma'mun, Ustad Rozaq. The secondary data is obtained from previous books and research.

RESULTS AND DISCUSSION

History of Carok. Based on the description of De Jonge the emergence of acts of violence in the life of Maduranese is caused by two important things. The first was the government at that time did not pay attention to the Maduranese and the second is as a consequence of the first cause, the community became distrustful to the government, thus any problems or conflicts were resolved in their own way in violence regardless of the rules. The solution intended is Carok. In 1700s VOC began to control Madura. At that time there were three kingdoms politically given the right and authority by VOC to take care of its own government. Thus the king of Madura freely determined forced labour, withdrawing income tax or money tax. The longer the community felt very miserable and the condition of land that barely could support the community. The belief in the law was gone. Criminal acts were everywhere and people sought solutions in various ways of self-help. Citing a report of a government official, Brest Ban Kempen who became an assistant resident in Bangkalan in 1847-1851, said the court was not working and the bodies of the victims were dumped in the town square and virtually no judicial proceedings. Even if there was a judicial process, suspects and witnesses were held in prison for months without trial. In the 19th century, the colonial government forbade to bring a sharp weapon because at that time a sharp weapon as if to hoard Madura Strait. But the result of this policy is nil because the root of the problem was the feudalistic government elite. According to De Jonge (Wiyata, 2002), the situation in Madura began to change direct government system was applied.

Refer to the search of articles written by Maduranese in electronic media, Carok history emerged among the Maduranese since the era of Dutch colonialism in the 18th century. Carok is a knight symbol in the fight for self-esteem (honour). Clurit began to appear in the age of Sakera legend. Clurit was used by Sakera as a symbol of resistance of commoners against Dutch colonizers. Instead for Dutch, Clurit was symbolized as a weapon of criminals. Those Dutch efforts were apparently managed to penetrate some Maduranese and become the philosophy of their life. When there are problems, infidelity, seizure of land, and so on, Carok is always the solution for upholding self-esteem. Similarly, when doing the crime, also using a sickle. Such conditions eventually, drive people outside Madura to label Maduranese like to perform Carok and being rough. Meanwhile, not all of Maduranese live that way. Maduranese have a subtle attitude, know good manners, do not like to quarrel. Carok behaviour is the descendant of the ancient people who aimed against Dutch colonizers. After so many years of Dutch colonialists left the island of Madura, Carok culture and using as sickle to finish off his opponent still exist, whether in Bangkalan, Sampang, and Pamekasan. They think that culture is the creation of his ancestors, not aware that it is the results of the Dutch colonial falsity.

Characterizing Sakera with a soul of a knight eradicate Dutch colonialism was also expressed by Mr Rozak. It came from an old Dutch story, Sakera who was born in Sampang, Madura. Sakera eradicated Dutch without fear with his organization (Interviewed with a religious figure; Mr Rozak). Another story that develops about the Sakera figure that a brave knight against the bourgeoisie. He took the wealth of rich people to be distributed to poor people in Sampang. The weapon that used is clurit. However, as time goes by, Carok is misunderstood, Carok becomes a symbol of courage to defend one's personal self-esteem (Interviewed with Woman Figure; Mrs Wayas). Based on the different early history of Carok it can be concluded that the key problem comes from weak law enforcement by the authorities and also the government system that is not on its people's side. Consequently, people prefer to create legal tools that they consider to provide a deterrent to the perpetrators of crime effectively.

Understanding of Carok by Maduranese. Carok is an institutionalization of violence that historically has been practiced by several Maduranese since several centuries ago. In addition, Carok also starts from the weakness of state authority since before and after independence to control the source of violence and the inability to provide justice to the community. This results, Carok performers are less able to express the language, thus

putting forward the aggressive physical behaviour in eliminating the lives of people who are considered harassing self-esteem (Wiyata, 2002).

According to field research, Mr Jami clarifies Carok is as an instrument to vent the resentment through assassination attempts. This fight is only meant for the act of fighting between men only because the action of fight between men and women is considered not a gentleman. This fight is a form of social control so people can control their behaviour, especially in respecting the rights of others, because people still do not fully believe in the existing legal institutions. Because Carok has existed before legal institutions legalized by the government. Carok is generally done by a man when he knows his wife is harassed by another man because the wife must be kept well by the husband (Interviewed with Public Figure, Mr Jami). The people themselves, even those who are aware of the legal system, do not have the courage to interfere in violation of the law between the two parties in conflict. This is because the unwritten rules that are already believed and agreed by Maduranese, that between two parties in conflict, the other party cannot interfere (Interview with Woman Figure, Mrs Wayas). The unwritten rules still exist due to some people perspective about law taking sides to a person who has the good financial ability then they can buy and set the case lighter. So when a conflict occurs, the solution that is considered the fairest is to apply vigilante (Interview with hoodlum; AR).

On the other hand, regarding to Carok as a symbol of men's courage, nowadays the meaning of Carok as a courageous act is rarely encountered. Carok is often engineered by the perpetrators. Carok has now been organized in such a way that the perpetrator has prepared how the legal method will be met. In the same way, a murder could use the role of an assassin or the murderer does not have to be jailed (Interview with Staff Administrative In Pakalongan Village; Mr Nurcholis). Along with the level of public participation in education in Sampang Regency added by development infrastructures in Madura Island, urban communities have started to leave Carok as an attempt to resolve the conflict (Interviewed with a Collegian, Ma'Mun). Contrary, some marginalized society in suburbs still legalize Carok. Even, to protect themselves from attack unexpectedly, they always save a sickle behind their backs so they can fight back (interviewed with Religious Figure; Ahmad Zaini).

All findings conclude Carok as a mechanism for resolving conflicts especially when a Maduranese man feel his pride disturbed by the other man. The doers choose Carok because of the system of law cannot give them the consistent justice to poor people. Even, the aware people in law do not have a big bravery to make the fighter burying the hatchet. Majority cases happen in suburbs area with low quality of education.

Efforts to Minimize Carok. In accordance with the applicable law in Indonesia, as stipulated in Legal Criminal Code, Carok is categorized as murder (article 338 and 340) or persecution (article 351, 353, 354, 355) so that the perpetrator must be jailed for years or even sentenced death. However, the public assumption, the law does not go like that. Carok perpetrators serve only a minor punishment and their role as perpetrators can be replaced by other parties. The impact of this affection the people's scepticism in the legal institutions of the police and judicial institutions. Society understands the legal constraints on lower-class economic society. On the other hand, because Carok has become a habit, people already understand the rules of the game and choose not to intervene when Carok takes place. One of a way to reduce the case Carok by involving tradition leaders, religious leaders and even informal characterizations such as tojing or bajing (hoodlum in English) (Interview with Woman Figure, Mrs Wayas). For example, one of the religious leaders who is considered to be able to reconcile the two sides of the family is a Religious leader who comes from the district Omben, Sampang regency. He brought both sides who promised to make peace. The public believes that if the promise is violated then he will get injured (Interview with Staff Administrative in Pakalongan Village; Mr Nurcholis). The role of the two families is also one of the options to resolve Carok that runs through generations, meetings between two ancestors or people who are considered elder to end the dispute between the two families. So that there is no longer vengeance between both families (Interview with Woman Figure; Mrs Lilik).

Another mechanism to minimize Carok is through education and religion. Carok occurs due to the lack of education and knowledge of whole Islamic religion, especially in the suburbs (Interview with religious Figure, Ahmad Zaini). In his book, Wiyata clarifies the lack of education as a factor that causes Maduranese to be provoked by the conflicts of every socio-economic problem affecting the region. Moreover, the social issues are offensive and involving self-esteem (Wiyata, 2002). This statement was supported by Mrs Wayas and Mr Umar Neto. Maduranese are poorly educated, it was rarely found Maduranese who was able to finish junior high school, high school, consequently, their thoughts are easily stuffed by something that is not good because their parents are not educated. In contrary, if parents are already educated, parents will lead the children not to choose Carok as a decision to end the self-esteem conflicts

Embedding a good education system towards the young generation is very important because education will make young people think about the consequences of crime, so Carok actions can be minimized. According to one of the community leaders we interviewed, the need for additional educational facilities or infrastructures and religious knowledge will be able to develop the human resources capacity of Maduranese so as to suppress potential of Carok or other potential crime (Interview with Public Figure, Mr Umar Neto). Besides, the importance of the village youth to maintain order, for example, one of the youth leaders mentioned the importance of conducting youth activities and discussion among youth so as to create harmony among youth in their area. It is also transferred to the younger generations in the village through discussion forums and they are as much as possible not to mention the word Carok in their discussion (Interview with Youth Figure; Sukron). In the contrary, one of hoodlum who is poorly educated has a different opinion. He believed no matter how high educated Maduranese could be, they would do Carok. In fact, he does not hesitate to tell his son to do Carok if the child's self-esteem is disturbed (Interview with Hoodlum; AR).

The statement of several informants above shows the public's critical attitude about the importance of facilities and infrastructure of good human resource development in society by the government. The initiatives to stop Carok are also done by parents by providing education and provision of good religion to their children and the existence of an active youth organization to minimize the spread of the tradition of conflict resolution through Carok by not socializing or disseminating all matters related to Carok. This study supports the study compiled by Hidayat, that Carok is an instrument to maintain self-esteem to be appreciated and acknowledged by others. Although in Sampang region there are already legal and religious institutions, most people, especially in the suburbs, they continue to understand Carok as a solute conflict resolution. In contrast to the prismatic worldviews in Sampang region who are more open to new things, they tend to criticize Carok as an attempt to defend self-esteem.

CONCLUSION

Madura tribe, one of the biggest tribe in Indonesia, has a distinctive character with dialect, appearance, work, clothing and so forth. Just same as other ethnic groups with distinctive cultures and customs, Maduranese also has a mechanism for resolving conflicts of self-esteem abuse between men and fights known as Carok. Carok is an institutionalization of violence that has historically been practised by some Maduranese people since several centuries ago. The history of Carok is defined by society in various ways. The red line from various sources of problems arises from the weakness of law enforcement by the governmental system that puts the people in a poor sphere. So the public would prefer to create a resolving conflict by their own that they deem effective to provide a deterrent to the person that started the conflict. Sampang people agree if Carok largely often starts from the interference of women who already have husbands by other men, then the husband feels harassed his self-esteem so to cure the heartache the husband must do duel with "Carok", the next cause is slander case, seizure inheritance, accounts payable and revenge for the dying family member. Carok still occurs because some people still consider the weakness of law enforcement also the lack of public access to education in schools. So it is important for

the government to reduce the number of Carok cases by providing good education in schools and religious education. As well as the importance of cooperation between governments, law enforcement with community leaders and religious leaders.

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TRADING CHANNEL PATTERN OF CASSAVA COMMODITY: DOUBLE ROLES FOR THE FARMERS – IS IT A BENEFIT?

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ABSTRACT

The results of presented study showed that farmers in addition to being producers also become a trading agency where they sell commodities directly to the nearest factory. Based on the tracing of cassava commodity trading channel pattern, two cassava channel modeling pattern in Bangka Regency of Indonesia was established: first channel, consisting of farmers, wholesaler and factories; second channel, consisting of farmers and factories. The size of the price received by farmers and the value of the cost benefit ratio differs in each trading channel pattern.

KEY WORDS

Cassava, trading channel, market behavior, market structure, trade margin.

The development of cassava productivity in Indonesia during 1980-2016 tended to increase, along with the increase of farmers' passion to grow superior cassava varieties of Gajah. The growth rate of cassava productivity in Indonesia increased by an average of 2.64% per year, productivity of 97.51 ku / ha in 1980 to 239.13 ku / ha in 2016. The last five years productivity (2011-2016) increased by 2.85%, despite a decline in cassava production by 2015 compared to 2014 (Nuryati, Waryanto & Akbar, 2016). The second largest contributor of agriculture, forestry and fishery with an added value of Rp 13.02 trillion (BPS Babel, 2016).

In terms of demand, there are several factors that need to be considered: (1) The cheaper the number of people interested in cassava varieties of Gajah as a result of government persuasion accompanied by the emergence of cassava processing factory or also called Tapioca Plant in Riausilip, Kenanga and Indonesia's largest factories in Puding Besar Sub-district (Bangka Pos, 2016), (2) Cassava Price Level at Factory, and (3) Other tuber price level. In terms of supply, several factors develop cassava, hai: (1) Cheap trends of cassava plant area, (2) climate, (3) price of production means, and (4) cassava technology development.

The development of cassava in Bangka Regency is divided into increasing harvested area and the presence of cassava / tapioca processing factories that are ready to accommodate cassava products in small and large scale. Cassava crop is one of agriculture product that has easy and low maintenance. In other words, the cassava, the productivity of the cassava commodity is necessary. What is needed by factory or consumer directly in good condition and quality.

Bangka Belitung Islands is one of the areas of cassava production centers outside Java Island and Bangka Regency is one of the largest cassava producing areas with the largest harvest area of 520 ha in Bangka Belitung Islands. However, the area of harvest area is not in accordance with the production output in 2015 as much as 1314 tons compared to West Bangka Regency which has 12,910 tons of production with harvest area of 505 ha (KBBDA, 2016). The condition of cassava production in Bangka Regency is contradictory or inversely proportional to the result of national cassava analysis, where the decrease of national cassava production in 2015 is due to the decrease of harvested area. So that the commodity of cassava food in Bangka Regency need to get an intensive handling in handling post-harvest constraints and marketing, especially in terms of trading.

Based on the problems that have been described above, the formulation of problems in this study are:

1. How many trading agencies or market participants are involved, how is the pattern of trading channels formed and what is the function of each of the trading agencies on the market of cassava commodity in Bangka Regency?

2. What is the market structure in every trading agency faced by the cassava commodity in Bangka Regency and how is the market behavior in each of the trading agencies involved?

3. What is the marketability of the cassava trading system in Bangka Regency based on the trading margin, the farmer's share, the profit and cost ratio?

METHODS OF RESEARCH

The research was conducted at the location determined by the researcher with the consideration that the selected location is the producer of cassava. The locations selected for the sampling are several sub districts in Bangka Regency, Indonesia. In analysis of trading commodity of cassava, the data used are primary data and secondary data. The determination of farmers and non-farmers respondents was based on information obtained from the analysis team of researchers in each district sample, and in each sub-district only 10 farmers and non-farmers were selected. The sampling of marketer institutions is then carried out by using the snowball sampling method, by tracing the dominant cassava marketing channel in the research area based on information obtained from the analysis team and the marketing actors.

The channel analysis of a marketing agency is used to identify market participants involved in the distribution of cassava commodities from farmers to final consumers. To find out the market structure of cassava commodity that can be seen based on the number of marketing institutions involved, easy access to enter the market, product differentiation, and market information. Then, market behavior can be analyzed by observing sales and purchasing practices conducted by market participants through a system of price determination and dissemination, and cooperation among involved marketing agencies. While the analysis of farmer's share price and the value of ratios and profits can be analyzed with a trading margin which is the price difference received by the manufacturer at a price paid by the consumer.

RESULTS AND DISCUSSION

In trading there are activities related to the delivery of products from farmers (producers) to consumers, as well as activities resulting in changes in the shape of the product, which is intended to facilitate the distribution and provide satisfaction to consumers by seeking for consumers to obtain the desired goods on the spot, time, form and price.

Table 1 – Distribution of Cassava Average Price and Margin of Trade on the Pattern of Cassava Code Line

| Trading Function | Trading Institution | | |
|----------------------|---------------------|---------|---------|
| | Farmers | Traders | Factory |
| Exchange | | | |
| • Buying | - | + | + |
| • Selling | + | - | + |
| Physical | | | |
| • Packaging | - | - | + |
| • Storage | - | # | + |
| • Transporting | # | + | + |
| • Processing | - | - | + |
| Facility | | | |
| • Sorting | - | + | + |
| • Grading | - | - | + |
| • Financing | - | # | + |
| • Risk taker | - | + | + |
| • Market information | + | + | + |

Notes: - Activity not done, # Activity sometime done, + Activity done.

These activities are called the marketing functions. Each of the trading agencies involved in the distribution of cassava from farmers to final consumers, performs various trading functions that are generally grouped into three main functions, namely: exchange function, physical function, and facility function.

Table 1 illustrates the overall functions of the trade-offs undertaken by the trading agencies involved in the delivery of cassava commodities from farmers to consumers, and in general, every agency institution performs different functions. The functions of the business when implemented well and efficiently can reduce the cost of the business. The exchange function explains the occurrence of transfer of ownership of the goods from the seller to the buyer in the process of sale and purchase through the transaction. Based on the search of cassava commodity lines, starting from the point of producer farmer to the factory which is directly related to the end consumers, there are two patterns of cassava farming channels in Bangka Regency, namely:

| |
|----------------------------------------------------------------------------------------------------------|
| <p>First Pattern: Farmers → Traders → Factory</p> <p>Second Pattern: Farmers → Factory</p> |
|----------------------------------------------------------------------------------------------------------|

The pattern of cassava channel in Bangka Regency does not vary, this is not separated from the limited production of cassava. The selection of marketing channels is based on several things, namely: selling price, transportation distance, source of purchase, and sales objectives. Although there are several different patterns of trading channels, it is still a unity of a cassava commodity trading system that physically consists of interrelated parts and cooperates in an organized and integrated system.

The market structure faced by cassava growers in Bangka Regency tends to lead to a perfectly competitive market structure, as seen from the number of farmers far more than the number of traders. The nature of products owned by a farmer is generally uniform or homogeneous. In price determination, farmers tend to be price takers and do not have a strong bargaining position even though farmers have price information obtained from peers and traders. Farmers can't affect the market price. The market structure faced by cassava collecting traders in Bangka Regency tends to lead to a perfectly competitive market structure, as seen from the number of farmers far more than the number of traders. Although, collecting traders are generally located in every village in the cassava production centers and more than one in each village. At the factory, the market structure formed tends to oligopoly market structure. This is seen from the number of factories that are not too much when compared with the number of wholesaler. The nature of the products received by the factory, both from farmers and from wholesaler have a very diverse quality. Sales conducted by the factory also describes the condition of products that vary based on the quality of the product based on the size and physical condition.

In the market behavior, farmers sell cassava to local collectors and mills in the form of bulk without sorting and grading. Sales of collecting traders to factories are also in the form of wholesale, collecting traders are seldom or rarely found make a grading before making a sale to the factory. The main reason why farmers and collecting traders are reluctant to sort is due to the sorting and grading when making a sale. Sorting and grading have become standard when collecting traders sell the cassava to factories. In general, buying and selling systems that are free and subscribed. Farmers are free to sell cassava to their destination traders, if the price agreement in the sense of farmers is less profitable, the farmer can sell his product to the other traders. Collecting traders to sell to the factory is also a free sale and purchase, without any contractual ties in the system of sale and purchase is done. If the price agreement that occurs in the taste by the collecting traders is less favorable, usually the wholesaler sells to another factory. Unlike the case with what happened in Bangka Regency, wholesaler have little choice to determine which factory to visit if the price position is not suitable, it happens because of the limited number of factories in the Bangka Belitung

Islands. Not only the limited number of existing factories, but the purchase price offered by the factory tends to be the same.

The trading margin in the case of cassava in Bangka Regency is the difference in price or price difference paid by the factory at the price received by farmers. The trading margin analysis is used to determine the largest form of margin of trading as a measure of efficiency of trading of cassava commodity in Bangka Regency. The margin distribution in each channel pattern is quite different (see Table 2).

Table 2 – Distribution of Cassava Average Price and Margin of Trade on the Pattern of Cassava Code Line

| n/n | Margin Element | First Channel Pattern | | Second Channel Pattern | |
|-----|----------------------|-----------------------|----------------|------------------------|----------------|
| | | Price (Rp/Kg)* | Percentage (%) | Price (Rp/Kg)* | Percentage (%) |
| A | Farmers | | | | |
| | Selling price | 525 | 72,41 | 725 | 100 |
| | Trading cost | | | 125 | |
| | Profit | | | 600 | |
| | Margin | | | 725 | |
| B | Traders | | | | |
| | Buying price | 500 | | | |
| | Trading cost | 125 | | | |
| | Profit | 100 | | | |
| | Selling price | 725 | 100 | | |
| | Margin | 225 | | | |
| C | Factory | | | | |
| | Buying price | 725 | | 725 | 100 |
| | Total Trading cost | 125 | | 125 | |
| | Total Profit | 100 | | 600 | |
| | Total Trading margin | 225 | | 725 | |

Notes: * Rp (rupiah) as Indonesian currency, * Kg (kilogram).

In the pattern of channel 1 consisting of farmers, collecting traders, and factories, the total margin of Rp. 225 per kilogram for a total cost of Rp. 100 per kilogram. Components of costs borne by the collecting traders are labor costs of Rp. 50 per kilogram, goods transportation cost of Rp. 50 per kilogram, and the cost of accommodation which includes the cost of labor consumption, and the cost of weighing Rp. 25 per kilogram. In the pattern of channel 2 consisting only of farmers and factories, the total margin of Rp. 725 per kilogram for a total cost of Rp. 125 per kilogram. Based on the tables of distribution margin above, it can be seen that the distribution of margin in every pattern of trading channel of cassava commodity in Bangka Regency is different.

The share of the price received by the farmer or farmer's share is the ratio of the price received by the farmer to the price paid by the wholesaler or factory at a higher level of trading agency, and is generally expressed as a percentage. Part of the price received by farmers is the concept of a reward for the activities of farmers in cassava farming. The amount of farmer's share can be seen in each channel pattern of trading. In the trading of cassava commodity, the amount of price received by farmers is different on each channel pattern. In the pattern of channel 1, the share of prices received by farmers is 72.41 percent and in channel pattern 2, the share of prices received by farmers is 100 percent. Based on the description of the share of farmer's share price in each channel pattern above, it can be seen that the share of the price received by the largest farmers is in channel pattern 2, this is related to the shortness of the trading channel. Part of the price received by the smallest farmer is on channel 1, this is because there is a trading channel in the form of collecting traders so that the reduction of farmers profit. The large part of the price received by farmers does not always show the high selling price of cassava at the farm level. Differences in the farmer's share of the price on each trade channel pattern are influenced by the formation of the selling price at the highest level of the trading agency.

Cost-benefit ratios are used to determine the spread of benefits and costs at each of the trading agencies involved in each of the trading channels. This ratio shows the amount of

profits that a trading agency receives on the trading costs incurred by the trading agency on a channel pattern of trading (see Table 3). Higher ratio value can show greater gain.

Table 3 – Cassava Trading Pattern

| Trading Institution | Profit (Rp/Kg) | Cost (Rp/Kg) | Cost-Profit Ratio |
|---------------------|----------------|--------------|-------------------|
| Trading Pattern 1 | | | |
| Traders | 100 | 125 | 0,80 |
| Trading Pattern 2 | | | |
| Farmers | 600 | 125 | 4,80 |

Based on Table 3, it can be seen that the value of the cost-profit ratio of each agency in the trading channel shows the value of different cost-profit ratios. The greatest cost-profit ratio value is at the farm level in channel pattern 2, which is 4.80. Profit ratio value of 4.80 means, that of every Rp. 1 per kilogram of trading costs incurred by the farmer will generate a profit of Rp. 4.80 per kilogram. The smallest cost-to-gain ratio value is at the collecting trader level in channel pattern 1 of 0.80. Profit ratio value of 0.80 means, from every Rp. 1 per kilogram of trading costs incurred by the collector will generate a profit of Rp. 0.80 per kilogram.

CONCLUSION

In the cassava business activity, it involves two agencies in the delivery of cassava commodities from farmers to industries (local factories), namely: collecting traders and farmers. Farmers have a dual role in which farmers are apart from being producers, farmers are also a farming institution where the farmers directly sell their commodities to the nearest factory. Every business institution generally performs different marketing functions based on its marketing interests and objectives. The functions of the business undertaken by the regulatory agencies are grouped into three main functions, namely: exchange function, physical function, and facility function.

Based on the search for cassava commodity line pattern, there are two pattern of cassava farming channel in Bangka Regency, namely: channel 1 pattern consisting of farmers, collecting and factory traders; channel 2, consisting of farmers and factories. The market structure that is formed at every level of the trade institution in the cassava commodity business can be different. The market structure faced by cassava farmers tends to lead to the perfect competition market structure. In collecting traders, the market structure that is faced tends to lead to the perfect competition market. At the factory, the market structure that formed is likely to be the oligopoly market structure.

Market behavior can be seen from the practice of sales and purchases conducted by each agency, pricing system, payment system, and cooperation among various business institutions. Sales and purchase practices are a form of good co-operation between business institutions as a way to create market stability. The pricing system is through a bargaining system and unilateral pricing system, and on determining the selling price of the farmer's position only as Price Taker. The price formed is the price set up by the market mechanism. Cash payment system is made in the form of cash payment system, advance payment system and later payment system. The ongoing payment system depends on the level of trust and agreement between the two parties. Cooperation formed between farmers and business institutions generally lasts long, resulting in good relationships and mutual trust.

The cassava commodities market analysis is analyzed using the margin analysis of the farmer's share price and the cost-profit ratio. The margin distribution of each business institution in each channel pattern is quite different. The difference in marginal distribution in each channel pattern is influenced by several factors, including: the number of business agencies involved in each channel pattern; the amount of the cost of the business being issued and the magnitude of the profits earned by each business institution on a channel pattern. The size of the price of different farmer's receipts on each channel pattern, the difference in the price of the farmer's share of each trader's channel pattern is influenced by

several factors, including: the small size of the trading margin formed in every pattern of the channel of the business, low and high price at the consumer level or selling price at the highest level of institutional level. The value of the profit gains ratio at each of the business institutions in the line of trade shows the different cost advantages ratio.

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GENERAL DESIGN OF DECISION SUPPORT SYSTEM TO SUPPORT BUSINESS AGILITY: A CASE STUDY AT MINING SERVICES COMPANY

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ABSTRACT

This study aims to identify and explain the design of business models as well as the general design of Decision Support System that supports business agility at Mining Services Company. Presented study is a qualitative research with a prospective case study method, while the key informants are Commissioner, Director and Vice President of the company. The results showed that the company has a standard method in applying business strategies agility, still rely on the competence of each management. The design of business model is used by using the Business Model Canvas analysis and SWOT analysis. As at the design stage Decision Support System in general, some components of the information system designed include model, output, input, database, technology and control. It is able to make the process faster and more accurate analysis until it provides the preferred priority of solution schemes from company to customer.

KEY WORDS

Decision Support System (DSS), business agility, business model, SWOT, mining services, company.

Information systems play a vital role in efficient operations, effective management, and the success of organizational strategy, including the company as a business organization. The balance of information technology and human resources in a company efficiently and effectively can achieve the strategic goals of the company. Which in this era of globalization, the use of information technology can create strategic advantage (O'Brien, 1996). Information technology can increase the speed of the company's work, and it generally can change the speed of the process of the work so as to increase flexibility and improve company performance.

In this study, the company that became the object is a private company engaged in mining services in particular area of Equipment Management (EM). The definition of Equipment Management is the scope of service company covering the management of equipment throughout its life cycle. Starting from the calculation and selection to meet the needs of equipment, operation, repair and maintenance, spare parts and logistics, to the disposal or resale. Armed with the available resources, the company started its sales activities by offering products such as spare parts and repair & maintenance services for equipment where the company has a network with the manufacturer or its dealer. Its first year of operation, recorded revenue from the sale of spare parts and repair and maintenance services although not too large.

During its business trip, the company often finds potentially of business opportunity. This means that management understands the key to success of these opportunities. But the company is constrained in certain aspects to handle it on its own. Some of the constraints include: not having the required capacity, lack of specific experience in the work requested, incomplete licensing, the terms of the support or cooperation with certain parties and others. The opportunities that come not only from the field of Equipment Management. This condition encourages management to find ways to still be able to capture the business opportunities by optimizing all their resources owned and keeping it safe for the company. It is undeniable that company needs these business opportunities to continue generating increased revenue, company must continue to grow. To face this situation, company

implements strategic business agility strategy, which generally begins with understanding and identifying what is needed for the success of the business, to the key things and details. Then choosing which is able to take responsibility and which role can be or should be fulfilled by other parties. Furthermore, take into counting the agreement to win with all relevant stakeholders needed, complement and harmonize all aspects required to achieve the success of the business.

Looking at the importance of the role of information systems, namely decision support system (DSS), which can be a solution for the management company in carrying out its strategy. Making process, gathering information, analyzing, performing calculations, and ultimately making the decision becomes more effective (safe and accurate) and more efficient (faster). With this the research is done about the design of business models and the design of Decision Support System (DSS), which support our business model.

LITERATURE REVIEW

Business Model. Business organizations are aimed at providing goods and services to consumers distinguished from their ability to pay of goods and services in accordance with the laws of the market (Kusdi, 2009). Each company has a business model, either stated explicitly or implicitly. Business model describes the design or architecture of how companies create and provide value to the customer, then the customer pays on values, these then the company changed the payment into profits (Chesbrough, 2006; Teece, 2010). In addition, the business model that becomes abstract representation of the organization that includes conceptual, textual, also financial products and services offered to consumers is targeted and strategic goals of the organization (Al-Debeiet al., 2008). The business model becomes the answer to the various questions about how a company works. The business model is well-known answer questions put forward Peter Drucker: who is customer? the what is the value for the customer?. In addition the business model also answers the basic question carried out by the managers: how to make money from a business? (Magretta, 2002).

There are many explanations about the business model, according to George and Bock (2012), which is a core aspect of a business that informally and formally has goals, business process, customer targets, strategies, infrastructure and operational policies including culture. Zott and Amit (2011) find that business models are more widely raised in non-academic articles than by academic journals. From a study of the theme of the business model, they concluded that the literature on business models is still relatively young and scattered. The concept base is still thin, but they suggest at least three concepts about business model, namely: (1) business model archetype (e-business model), (2) business model as activity system, (3) business model as cost / revenue architecture.

The business model applied to the company according to the place of the research is the business model according to Osterwalder et al., (2010) which describes the thought of how an organization creates (creates value), provides (delivers value), and capture (captures value), in the context of the economic, social, cultural or otherwise. Business model construction process is part of the business strategy. The tool to describe the business model of a company, which was named Business Model Canvas (BMC). A template for documenting the existing business model or for developing new business models. There are nine elements of BMC namely customer segments, customer relationships, channels, value proposition, key activities, key resources, key partners, revenue streams and cost structure.

SWOT Analysis. SWOT analysis is a planning method to describe and evaluate an organization, business or project opportunities based on four factors. Four factors are the strength, weakness, opportunity and threats. Strengths and weaknesses are internal factors, while opportunities and threats are external factors. By considering the internal and external factors are expected to process the evaluation and analysis can be more comprehensive.

However, a limited SWOT analysis only provides an overview of the situation, not solving problems or generating solutions. Therefore this analysis is intended to provide a

basic insight of the strategy required based on the four factors of SWOT. In addition, the effectiveness of this analysis is also greatly influenced by the quantity and quality of information on which to base the identification and measurement of these four factors. When the information possesses a weak and inaccurate, the SWOT factors identified are also weak. Which certainly resulted in the strategies taken is not quite effective to solve the problems faced by or achieve the objectives to be achieved.

A combination of factors SWOT provide four configuration options that can be an alternative to determine the most appropriate strategy (Rangkuti, 2015):

a. Configuration SO (Strength-Opportunity), is a configuration option that utilizes the potential of the power company to win and reach the greatest opportunities.

b. Configuration ST (Strength-Threat), is a configuration option that utilizes the power of the company to cope with threats coming.

c. Configuration WO (Weakness-Opportunity), is a configuration option to exploit the opportunities provided by minimizing the weaknesses that exist in the company.

d. Configuration WT (Weakness-Threat), is a configuration option that minimizes the weaknesses of the company and seeks to avoid the potential of emerging threats.

This research does not use SWOT analysis in isolation, but used it in conjunction with BMC analysis. So that in the process of identifying each element of the business model, in addition to using BMC framework and approach, also conducted a SWOT analysis based on the data obtained. Before finally assigning information that represents each element. Until its ninth fully identified to be appropriate TMR business model and capable of supporting the applied business agility strategy. From a business model that has been identified is then carried its DSS general design process.

Business Agility

Seeing from its ability to adapt, business agility is able to respond effectively and efficiently to the needs of both proactive and reactive and able to face the uncertainty of the environment (Dove, 2006). In studies conducted on mining services company, adjustments and changes are made either internally or in relations with external parties to realize a business model that is required in order to succeed in a business opportunity that is taken. The company choses to execute a business agility strategy to capture business opportunities are found that can increase revenue and maintain its business growth.

For a large company, an information system is needed. The demands of business activities as well as the demands of current regulations require the development of information systems in order to maintain some daily activities as well as the basis for the development activities in the future. In one case, the information system owned by an organization are a lot of related to the past, in the sense of handling the records about what has already occurred in the organization. But it is also related to the present in the sense of the word presenting information about the current status of the organization. Also related to the future within the meaning of the presentation of information that can be used in determining the strategy and the actions to be taken in the future. Information is very important for management in decision-making. Specific and structured information as needed will help the users, and can be obtained from the information system.

The information system that has a primary function to provide information in order to help management take a decision is called Decision Support System (DSS). DSS can be fully computer-based, human-based or a combination of both. DSS generally serve middle or top-level management, on the planning or analysis process. DSS usually generates a sequence or a choice between several alternatives. Decision-making is the act of election management in the best alternative to achieve the target. After a decision is taken then the activities are carried out. Decisions that are routine and repeatitive are called programmed or structured decision. What is programmed is not a decision made by the computer through a computer program, but a collection of procedures performed repeatedly. However, at higher levels of management, in general, the decision is more not programmed or unstructured.

The decision by the management can be grouped into three types (Jogiyanto, 2001): non-programmed decision or unstructured decision; semi programmed decision or semi-structured decision; programmed decision or structured decision.

Unstructured decisions are not repetitive and do not always happen. This type of decision is made by top management. Information needed for unstructured decision making is often not easy to obtain because it is not easily available and is usually sourced from the outside environment. Management experience becomes very important for unstructured decision making. To support decision making activities requires useful information, where the type of information required for each level of management is different. The lower level management of the information type is detailed because it is used primarily for operation control. As for higher level management the type of information is increasingly filtered or more efficient.

Information System (IS) Development. System development can mean constructing a new system to replace the old system as a whole or improve existing systems. System development background can be due to the emergence of problems, to seize a particular opportunity, or to fulfill certain instructions/directions from leaders or outside organizations such as government regulations. With the development of the system is expected to increase in terms of performance, information, control, efficiency or service.

The system development process through several stages of the system is planned to start with the system implemented, operated and maintained(maintenance).When the operating system has been developed to encounter the problems that cannot be solved the maintenance is necessary to develop a system to overcome back and the process is returned to the first stage, the system planning stage. This cycle is called the system development life cycle (SDLC: System Development Life Cycle).

According to Turban et al., (2010), system development life cycle (SDLC) is a structured framework and is used in large IT projects that consist of sequential process to develop information systems. The main stages are system analysis, design or system design and system implementation.

METHODS OF RESEARCH

The type of research used is qualitative research with case study method. The case study in is an exploration of a system or case / various cases over time through in-depth data collection and involving a rich variety of resources in a context (Creswell, 1998). Based on the cases studied, according Endraswara (2012), the case study method is divided into two groups. The first is a case study that examines the deviation of fairness and case studies that examine towards the development of (prospective). In this study using a prospective case study because it is based on problems that occurred in the company, the necessary handling to make a business decision for the sustainability of the company.

The study was conducted on mining services company in South Jakarta, Indonesia. The study also chose to focus on the appropriate issues that have been formulated: how to design a business model, and how common draft Decision Support System (DSS) to support the company's business model. Referring to Systems Development Life Cycle (SDLC: System Development Life Cycle) then the scope of the research is limited to the stages of System Analysis and General Design of System.

A case study research data was obtained with several techniques, namely: depth interviews, observation of participation, and documentation. The key instruments in the interview are Commissioner, Director and Vice President of the company. Observations of participation is done by direct observations to the location.

RESULTS AND DISCUSSION

Business Model Concept and SWOT Analysis. A business model is a fundamental tool for a company to run their business. In this study, both Business Model Canvas (BMC) approach and SWOT (strength – weakness – opportunity – threat) analysis were conducted to identify each element of a business model. That two steps are needed not only to mapping the pattern of business but also to define how the business agility strategy will be applied. Thus, a holistic map of business model will be a great guideline for a company. The

data collections from the respondents (commissary, director, and vice president) or from the key persons identified some elements of BMC in the mining service company are:

The company understands that to gain more business opportunity than the national company or private national/multinational company was not simple. With the limited experience as a startup company and only rely on technical qualification and appropriate administration, they need to discover a unique idea to win from their competitors. Through element value proportion, the company could provide a valuable benefit for their customers, therefore they might excel the market leaders. The SWOT analysis illustrate in table 1.

Table 1 – SWOT Analysis Matrix on Value Propositions Element

| Element | SWOT Analysis | | | |
|--------------------|-----------------------------------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| | Strength | Weakness | Opportunity | Threat |
| VALUE PROPOSITIONS | Financial condition flexibility might associate between customers and manufacturer | - | Inflexible financial conditions that commonly found in the national company might be unsuitable for the manufacturer. | - |
| | Variation innovation concept of business model and proactive take apart as composer. | Limited Experience | Conservative business system generally employed in national company. The national company must adhere the regulations that set up by the government, such as procurement regulations and collaboration with other national company. | - |
| | A great networking with several parties such as expertise, manufacturers, investors, and government | - | - | - |

Source: research result, 2017.

The mining service company illustrates various excellent strategies for their improvement:

- Eminent product with advanced technology that is not retained by the competitors.
- The new product shall be compatible with the product that owned by the customers. Provide a relatively low economic trial rather than the competitors, prior to the procurement process. Therefore the customers get the proof of the sample product before the procurement process.
- Provide a rejuvenation service for all customers tools with free of charge, customers only have to pay if they decide to modify their tools with the latest one. Supervise a complete consignment process with the inventory management, including procurement process, stock check, and delivery process to the drilling site.

This element helps to identify and classify the segment of targeted customers. Whereas the targeted customers are the priority of the whole segments. According to SWOT analysis, it shows that there is a combination of customers segment configuration, which are SO (Strength-Opportunity) utilize the company potential to achieve bigger market opportunity and WT (Weakness-Threat), minimizes the weakness of the company to avoid future threats. Further SWOT analysis illustrate in table 2.

Table 2 – SWOT Analysis Matrix on Customer Segment

| Element | SWOT Analysis | | | |
|------------------|----------------------------------------------------------------------|---------------------------|-----------------------------|-------------------------------------------------------------------------------|
| | Strength | Weakness | Opportunity | Threat |
| CUSTOMER SEGMENT | Have a broad networking system with national company and government. | Limitation of the capital | Stable financial conditions | Not every national company and their groups have the same financial stability |

Source: research result, 2017.

The third element is the channel, in this point the strength of the company is not only the ability to gain relation like explained before in customer relationship but also the ability to link with any level of organization in the market is emphasized. Hence the weakness of the company that has limited experiences, and the potential threats shall be well managed. The company prioritizes direct appointment for the procurement process. Moreover, to introduce the product and the excellence of the service, the company decide to make intense market penetrations to the key person through informal communication. According to SWOT analysis, it is identified than channel has the tendency to follow an alternative configuration, ST (Strength Threat) utilize their potential strength to overcome the future threats.

Table 3 – SWOT Analysis Matrix on Channel Element

| Element | SWOT Analysis | | | |
|---------|-------------------------------------------------------------|-----------------------------|-------------|-----------------------------------------------------|
| | Strength | Weakness | Opportunity | Threat |
| CHANNEL | Wide spread link towards any level and function | Limited working experiences | | Several working period and experience are required. |
| | The ability of management to gain a good networking system. | | | |

Source: research result, 2017.

From the work that has been done, the company required to establish a relationship with the customer formally and informally. Informal communication created in general through opportunities outside the official communication associated with the work between the company and the customer organization. Such as communication through forum alumni ties, golf community and so forth. Relations between the two are complementary and a special concern of management. It aims to enable the company to capture what the customer needs as thoroughly and accurately as possible. On the other hand, formal relationships often provide only limited information. While informal relationships can be obtained complete information, beyond the technical and administrative limits usually obtained from formal relationships. SWOT analysis, in this element, the company has the strength of management that has good networking ability. This is evidenced by almost all major customers in the company has a good relationship with upper management levels, middle to bottom. Indeed, the weakness is a relationship with upper and middle management customers still need to handle by management. With the amount of management consisting of Commissioners, Directors and Vice Presidents, then under certain conditions sometimes the interest to maintain the relationship is not well organized. In addition, the pattern of a formal and informal relationship like this also has a high cost of relationship potential threat. Therefore a great coordination between parties is crucial.

Table 4 – SWOT Analysis matrix on Customer Relationship

| Element | SWOT Analysis | | | |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|-------------|-------------------------------------------------------------|
| | Strength | Weakness | Opportunity | Threat |
| CUSTOMER RELATIONSHIP | The ability of management to gain a good networking system. i.e: with Legislative members, Ministries, Local Government and others | The ability to make networking system rely on the management | | Potential cost of maintaining relationship relatively high. |

Source: research result, 2017.

In this element, the company gets the revenue that is the sale of the trade and services. Market revenue is gain from the selling of goods such as machine units, components or spare parts. While income from the service attained from the charge of services, for instance, equipment improvement, equipment maintenance, management contract, fabrication project, inventory management contract and others. Further analysis of revenue elements, as follows:

- The company could provides extra value in technical service, management, and the new way of business. Moreover, the company could give a great pricing rather than their competitors that meet the customers budget.

- Improvement in billing scheme, that suitable with customers' need.

- In terms of value based on revenue streams, service work, especially fabrication projects, contribute more that dominates the company's sales pattern. Despite, the fabrication projects are low in term of profit for the company. Whereas a non-fabrication service such as repair and maintenance services, maintenance contracts provides a larger percentage of profit. As for the sale, the degree of profit varies depending on cooperation or support from each manufacturer/dealer.

- In term of price quotation, the company commit to continuously updating their pricing due to meet the customers' need by regularly survey the market, competitors and also customers.

There are two important aspect in SWOT analysis of key activities, which are trading and service.

Table 5 – SWOT Analysis Matrix on Trading in KeyActivities

| Element | SWOT Analysis | | | |
|----------------|-------------------------------------------------------------------|-------------------------------------------------------------|------------------------------------------------------------------|------------------------------------------------------|
| | Strength | Weakness | Opportunity | Threat |
| KEY ACTIVITIES | Comprehensions and experiences in sales and marketing | | Manufacturer commonly work with national company and their group | |
| | Experience and ability to deal with manufacturer | | | Manufacturer doesn't provide suitable pricing scheme |
| | Have import licence | Inadequate experience and ability of import system. | | Unexpected expenses from clearance process |
| | Comprehensions and experiences in managing inventory and logistic | Insufficiency facility in inventory and logistic management | | |

Source: research result, 2017.

From the SWOT analysis (Table 5) it shows that key activities can be classified in two configurations, which are SO (*Strength Opportunity*) utilize the potential strength to get bigger opportunity and ST (*Strength Threat*) turn the strength into a weapon to overcome the threats.

Table 6 – SWOT Analysis Matrix on Service in KeyActivities

| Element | SWOT Analysis | | | |
|----------------|----------------------------------------------------------------------|--------------------------------------------|------------------------------------------------------------------------------------------|---------------------------------------------|
| | Strength | Weakness | Opportunity | Threat |
| KEY ACTIVITIES | Ability and experience in project planning | Staff that have limited project experience | Collaboration with expertise in thecnical but lacking in project planning ana management | - |
| | Have a good link and compentency to design a suitable business model | - | | - |
| | - | - | Bussines opportunity on high segmented customers | Posibility to pairs with incompeten parties |
| | - | - | Have a service partner with high technical competence but less on sales competence | - |

Source: research result, 2017.

From the SWOT analysis (Table 6) it shows that key activities has tendency to one configuration, SO (*Strength Opportunity*) utilize the potential strength to get bigger opportunity.

In trading, the key resources is the key person shall have knowledge, experience, and networking sytem in term of: *Dealership Management* or *distributorship*, *Equipment Management*, Inventory Management and logistic, Process and sales management.

Beside, from legal aspect company should have importing licence and working permit required to carry out trading activity.

Table 7 – SWOT Anslsis Matrix on Key Resources of Trading

| Element | SWOT Analysis | | | |
|---------------|------------------------------------------------------------------------------------------------------------------------------|----------------------|----------------------------------------------------------------|--------|
| | Strength | Weakness | Opportunity | Threat |
| KEY RESOURCES | Human resources that have capability on dealership management, equipment maintance, inventory and logistic management, sales | | International manufacturer show interest in Indonesian dealer. | |
| | Have import licenses | Limited team member. | | |

Source: research result, 2017.

From the SWOT analysis (Table 7) it shows that key activities can be classified in two configurations, which are SO (*Strength Opportunity*) utilize the potential strength to get bigger opportunity.

While for the service job, key resources define as the key person who has several abilities, experience, and networking in project planning and management. Furthermore, other key resources that are identified is a human resource with ability in fabrication service and telecommunication.

Table 8 – SWOT Analysis Matrix on Key Resources of Service

| Elemen | SWOT Analysis | | | |
|---------------|------------------------------------------------------------------------------------------------------------------------|-------------------------|----------------------------------------------------------------------------|---------------------------------------------------------------------|
| | Strength | Weakness | Opportunity | Threat |
| KEY RESOURCES | Human resources with project management ability | Insufficience facility. | Unprofessional vendor in term of company management and project management | Team development as overhead burden as well as business development |
| | Human resources that have a good link with service provider(equipment management, project, telecommuniacion, industry) | - | | |
| | - | - | Hindrance in marketing for service cpany | Ensure a great competency and commitment between partner |

Source: research result, 2017.

In the key partner's elements of the trading, the strengths are: extensive corporate network, human resources (HR) with the capability of dealership-management, knowledge, and experience of sales and marketing, and import licensing. While the hindrance is the limited team member. Many manufacturers/dealers who need partners so that might become an opportunity for the company. The threats are privilege gained from low to middle-income manufacturers (terms of payment, technical support).

While, for the service, in order to have the same strengths and opportunities as trade jobs, there are several threats encountered in the form of service companies are still run in a conservative way and communication & coordination is not well organized.

Inline the analysis of BMC elements that has been done previously. In this element also identified important issues related to cost based on the type of job, which are trading or service. On trading, the issues which should be the attention of the company are the costs that follow the cost of the purchase price of the goods themselves, including the cost of

shipping, handling fees, insurance, inventory costs, taxes. Especially regarding the cost of inventory, TMR is always trying to apply zero inventory, which TMR will buy or bring in new goods when the customer has issued a purchase order. No warehouse required, no storage fees and no 'idle' corporate funds.

This is effective to reduce costs, yet considered not to reduce the value received by the customer. For service job, especially projects with the high budget (more than 1 billion) and long duration (more than 1 month), the company has the maturity of planning and implementation of excellent project management becomes the key to the success of the service work. The Company has the strength to earn trust by several banks as a debtor to obtain loan facilities in the form of working capital, business capital and others.

General Design of Decision Support System. Model of the proposed DSS in the form of logical model. This model is made to explain to the user how the functions in the DSS will logically work. The logic model is designed using data flow diagrams (abbreviated DAD). And since the proposed DSS design is a new system (no previous system existed), so the appropriate DAD form is DAD logic (DADL). DADL emphasizes the logic of system requirements, ie what processes are logically required by the system. No emphasis on how the system is applied. DSS designed for TMR is a human-based DSS. This means that inputs entered into the system rest on the information from its users. For data processing methods that will be used in this DSS is distributed data processing method and method of processing data directly (online processing method). Distributed data processing methods allow each function to enter its own data, process and generate its own report, with limits in accordance with their respective authorities. While the direct processing method allows all inputs to enter directly used to update the master file, resulting in the latest information. Data processing methods are scattered and direct data processing is chosen with consideration because it is expected that this DSS can help the process of analysis and decision making. Here is a data flow diagram (DAD) Level 0 or overview diagram:

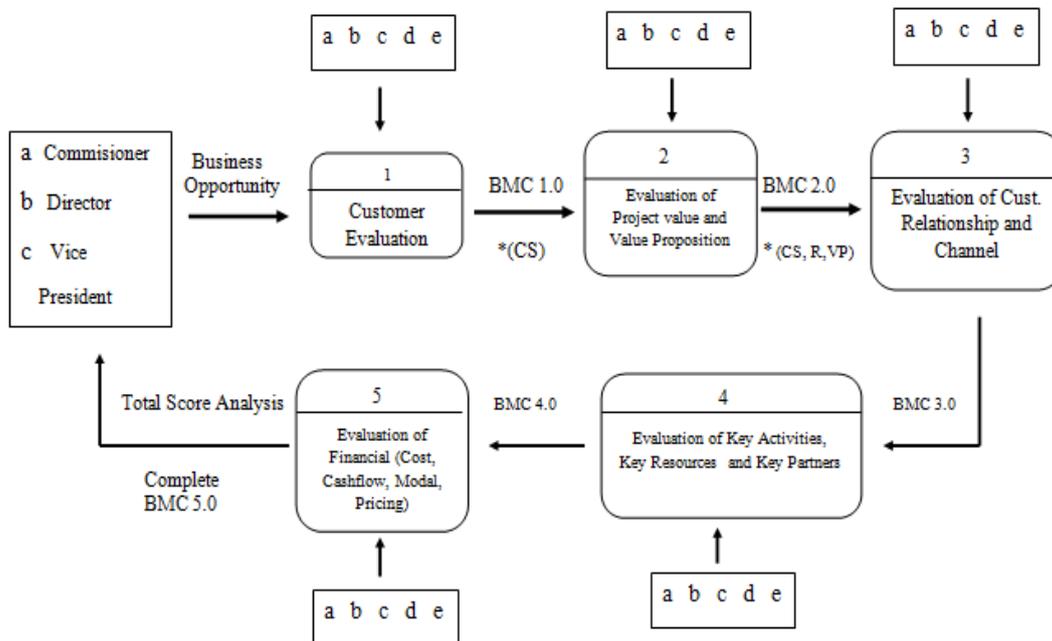


Figure 1 – Data flow diagram (DAD) Level 0 or overview diagram: a. Commissioner, b. Director, c. Vice President, d. Operational Manager, e. Support Manager, BMC (Business Model Canvas), CS (Customer Segment), R (Revenue), VP (Value Proposition).

From the side decision, based on the classification of decisions that have been described, the type of decision taken based on information output produced by this DSS is the type of unstructured and unprogrammed decisions. Every business opportunity analyzed

requires different information and it is possible to identify different business models. Therefore decisions are taken including unstructured and unprogrammed decisions.

DAD described above, either DAD top level (context diagram), DAD level 0 (overview diagram) or DAD hierarchy will be a reference for design the next system components, i.e output, input, database, technology and control.

CONCLUSION

As a result of general DSS design to support business agility in this research, it is known that company still use standard method in applying business agility strategy. Still rely on the competence of each management and have not utilized the existing organization and resources. Companies need Decision Support System (DSS) to support the implementation of business agility strategy. Precisely on the process of conformity analysis between the company's business model and business model of opportunity. DSS business agility will make the analysis process faster and more accurate. Until it generates the preferred priority of the solution scheme from the company to the customer. DSS business agility also provides other benefits of providing a track record of the analysis and decision-making process of all business opportunities that have been encountered with all the information that accompanies it. This is very beneficial for the progress of the company's business in the future. Through business model analysis using Business Model Canvas (BMC) and SWOT can be identified business model in accordance with business agility strategy. The suitability of the elements between the business model that has been identified, and the business opportunity model encountered, determines the potential to win it.

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THE ROLE OF ORGANIZATIONAL COMMITMENT MEDIATION ON THE EFFECT OF PERSON-ORGANIZATION FIT AND JOB SATISFACTION TO TURNOVER INTENTION

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ABSTRACT

This study aimed to analyze and find out the role of organizational commitment mediation on the effect of person-organization fit and job satisfaction to the turnover intention of marketing funding employees. The research method used was quantitative. The type of this research was causal associative by using purposive sampling method in the sample determination. Respondents are 96 employees of Marketing Funding at Bank Nusa Tenggara Barat, Indonesia. The data analysis technique used was Partial Least Square analysis. The research result showed that person-organization fit has no significant effect on turnover intention, job satisfaction has no significant effect on turnover intention, person-organization fit has significant effect on the organizational commitment, job satisfaction has significant effect on organizational commitment, organizational commitment has significant effect on turnover intention, organizational commitment fully mediates the relationship between person-organization fit on turnover intention, and organizational commitment fully mediates the relationship between job satisfaction on turnover intention.

KEY WORDS

Person-organization fit, job satisfaction, organizational commitment, turnover intention, bank.

Human resources are the most important asset in a company. The management of the company's human resources must be able to run in order for the company to compete with other companies. Conversely, if the management of human resource of a company is not running effectively, then various problems that disrupt the performance of the company will occur. One of the employee behaviors that often arises due to the failure of the company to manage its human resource is a desire to switch jobs (turnover intention) that lead to the employees' decision to leave their job. Based on the 2015 Salary Survey conducted by Mercer Talent Consulting & Information Solution, the global HR consulting company that is the partner of SWA, the turnover rate of all industries is still high at 8.4%. The highest turnover rate occurred in the banking sector, at 16%. Of course, the high turnover rate can disrupt the activities and productivity of a company. Many things can cause turnover intention; among others is the suitability of individuals with the organization, work environment, job satisfaction, organizational commitment, and so forth.

Mobley (1986) states that turnover intention is defined as the tendency or intention of an employee to quit his/her job voluntarily or to switch from one workplace to another according to his/her own choice. Meanwhile, turnover according to Robbins and Judge (2009) is the act of permanent resignation made by employees either voluntarily or not. One of the employees with high turnover intensity is the marketing funding department. The Marketing funding employees at PT. Bank NTB, which is a local government bank of Nusa Tenggara Barat (NTB), has a low turnover rate from January 2016 to January 2017 at 2%. According to Roseman (1981), the turnover rate above 10% per year is classified as the high turnover rate. The phenomenon of the low turnover rate of marketing funding employees at PT. Bank NTB is inversely proportional to the global survey showing high turnover rates. Therefore, this research was conducted to find out and analyze the role of organizational commitment mediation on the effect of person-organization fit and job satisfaction to turnover intention on marketing funding employees at PT. Bank NTB.

LITERATURE REVIEW

Person-Organization Fit. According to a view by Kristof-Brown et al., (2005), the person-organization fit is a suitability between employees and organization that occur when there are entities that provide what is needed by both parties or have similarities related to fundamental characteristics. Meanwhile, Donald and Pandey (2007) have another view on person-organization fit, that is the fit/suitability between individuals when: (1) there is at least a sincerity to meet the needs of others, or (2) they have similar basic characteristics. Kristof (1996) divides person-organization fit into four aspects: value fit, objectivity fit, fulfillment of the employee needs, and characters fit of culture-personality.

Research conducted by Liu et al., (2010) in the Chinese Public Sector indicates that person-organization fit negatively affects turnover intention. Subsequent research by Hassan (2012) conducted on five of the best commercial banks in the city of Pakistan shows that person-organization fit negatively and significantly affects turnover intention. This shows that the higher the person-organization fit of employees, the lower the desire to leave the organization. The different results of studies are shown by Latif and Bashir (2013) with positive and insignificant results between person-organization fit and turnover intention relationships. This research suggests that employees will not leave the organization merely because of a value discrepancy with the company.

Job Satisfaction. Robbins (2007) says that job satisfaction is an individual's general attitude towards his/her work. Jobs demand interaction with colleagues, employers, organizational rules and policies, performance standards, working conditions and so on. A person with a high level of job satisfaction shows a positive attitude towards the work, on the contrary, a person that is not satisfied with his/work showing a negative attitude towards the work. Job satisfaction according to Roelen (2008) is measured using five indicators, namely satisfaction with the job itself, satisfaction with salary, satisfaction with the attitude of superior, satisfaction with co-worker, and satisfaction with the promotion.

Mobley et al., (1978) states that job satisfaction has a close relationship to employee turnover intention which followed by the search for another job. Similarly, Motowildo (1983), expresses that job satisfaction affects employee turnover intention and this is the result of the expectations of employees to their current work. Subsequent research by Tnay et al. (2013) shows the result that there is a negative effect of job satisfaction on turnover intention, organizational commitment negatively affects turnover intention. This study is in line with research by Ghandi et al. (2017) which states that job satisfaction negatively and significantly affects the turnover intention. Similarly, research conducted by Sutanto and Gunawan (2013) shows that job satisfaction also has a positive effect on organizational commitment. This research is supported by research conducted by Yamazakia and Petchdee (2015) which shows that job satisfaction is very important because it contributes to the success of the company through its human resources, among others, increasing their organizational commitment. Similarly, research conducted by Octaviani (2015) shows insignificant results on the relationship of job satisfaction and turnover intention.

Organizational Commitment. According to Mowday et al., (1982) organizational commitment can be seen in the employees who serve the organization according to their job and work wholeheartedly for the benefit of the organization and they will maintain their membership in the organization. Meyer and Allen (1991) explain that there are three dimensions of organizational commitment, namely (1) affective commitment refers to the emotional attachment, identification and involvement of an employee in an organization, (2) continuance commitment related to the concept of side-bets orientation that emphasizes the contribution of a person which may at times be lost if the person leaves the organization and (3) the normative commitment shows how far a person is psychologically bound to be an employee of an organization based on feelings such as loyalty, affection, warmth, possessiveness, pride, happiness, etc.

A study by Ahmadi et al. (2014) on employees in the City of Tehran shows that person-organization fit positively and significantly affects organizational commitment. Further research by Khaola and Sebotsa (2015) shows a positive and significant relationship

between person-organization fit and organizational commitment. Further research conducted by Saeka and Suana (2016) shows organizational commitment negatively affects turnover intention. This means that higher organizational commitment on each employee will reduce the turnover intention rate. Research by Jehanzeb et al., (2013) states that organizational commitment negatively and significantly affects turnover intention.

Turnover Intention. Robbins (2006) explains that a person's withdrawal from an organization (turnover) can be decided in two ways: (1) voluntary turnover is the employee's decision to leave the organization voluntarily, (2) involuntary turnover, describes the employer's decision to terminate the employment relationship and is uncontrollable to the employee who experiences it. According to Saeed et al. (2014), the turnover intention is a condition in which an organization's employees have plans to leave their jobs. Booth and Hamer (2007) define turnover intention as the worst impact of an organization's inability to manage individual behavior so that individuals feel they have higher job change intentions. According to Mobley et al., (1978) the indicator of turnover intention measurements consist of thinking to quit, searching for alternative employment, and intention to quit.

Subsequent research by Alniacik et al., (2013) and Faloye (2014) shows no influence between organizational commitment and turnover intention. This means that, in this study, organizational commitment as a mediation variable has no significant relationship to turnover intention.

METHODS OF RESEARCH

The research method used was quantitative. Type of research used was associative causal to find out the effect of the independent variable to dependent variable. This research was conducted at PT. Bank NTB with respondents of marketing funding employees as many as 96 people. The questionnaires were distributed as many as 96 questionnaires and then all the questionnaires were processed to obtain the results of respondents' answers. The variables found in this study were turnover intention measured using indicators developed by Mobley et al. (1978), cited from (Ibrahim, 2017), person-organization fit variable was measured using indicators developed by Febe (2016), job satisfaction variable was measured using indicators developed by Luthans (2006) cited from Witasari (2009), and organizational commitment variable using indicators developed by Meyer and Allen (1997) cited from Sukamto et al., (2014).

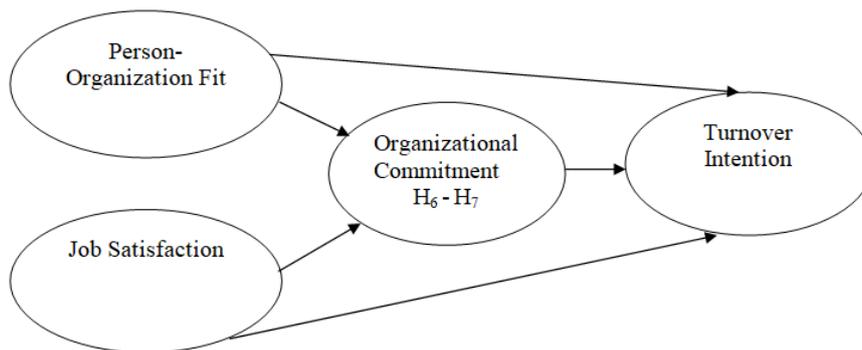


Figure 1 – Hypothesis model

The weighting of each variable was using a five-level scale (Likert scale) consisting of strongly agree, agree, sufficient, disagree, and strongly disagree. The result of instrument reliability test showed that all items in research variable were reliable because Cronbach's Alpha was above 0.6, while the result of validity test of research instrument by using correlation technique of Product Moment Pearson showed that four items on job satisfaction variable were invalid because the value of r count was less than 0.3, so it was removed from the analysis, while the other research variable items used were valid. Data analysis in this research was using Partial Least Square (PLS).

The research hypotheses are formulated as follows:

H1: Person-organization fit significantly affects employee turnover intention.

H2: Job satisfaction significantly affects employee turnover intention.

H3: Person-organization fit significantly affects the organizational commitment of employees.

H4: Job satisfaction significantly affects the organizational commitment of employees.

H5: Organizational commitment significantly affects employee turnover intention.

H6: Person-Organization Fit significantly affects turnover intention with the organizational commitment as the mediating variable.

RESULTS AND DISCUSSION

In accordance with the hypothesis that has been formulated, then in this study the analysis of inferential statistical data measured by using SmartPLS 3.0 software ranging from model measurement (outermodel), model structure (inner model) and hypothesis testing (Ghozali, 2014). Based on the model measurement (outermodel) namely the test of discriminant validity and composite reliability shows that all variables are valid (value $\sqrt{AVE} > 0.5$) and reliable (CR value > 0.7).

Table 1 – Value of Square Root of Average Variance Extract (AVE) and Composite Reliability (CR) Latent Variable Research

| Variable | AVE | \sqrt{AVE} | CR | Explanation |
|---------------------------|-------|--------------|-------|------------------|
| Person-Organization Fit | 0.423 | 0.650 | 0.927 | Valid & Reliable |
| Job Satisfaction | 0.398 | 0.631 | 0.788 | Valid & Reliable |
| Organizational Commitment | 0.410 | 0.640 | 0.939 | Valid & Reliable |
| Turnover Intention | 0.439 | 0.662 | 0.774 | Valid & Reliable |

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

Assessment towards structural model or inner model is done to see the relationship between construct, significance value and R-Square research model.

Table 2 – R-Square Value of Dependent Construction

| Variable | R-Square |
|-------------------------------|----------|
| Organizational Commitment (Z) | 0.639 |
| Turnover Intention (Y) | 0.357 |

Source: Data that have been processed by using SmartPLS 3.0

Q-Square value can be obtained by the formula:

$$Q^2 = 1 - (1 - R_1^2) (1 - R_2^2) \dots (1 - R_p^2)$$

$$Q^2 = 1 - (1 - 0.639^2) (1 - 0.357^2) = 0.484$$

Q-Square value is known to be 0.484 or 48.4% for person-organization fit and job satisfaction as independent variables that effect the turnover intention through organizational commitment. Based on the results of this calculation also gives the meaning that there are still 51.6% other variables that can affect the turnover intention of marketing funding employees at PT. Bank NTB outside the model that is not examined. For example leadership, compensation, organizational culture, stress, burnout, and work environment.

Furthermore, hypothesis testing can be seen from the value of path coefficient and significant p-value ($\alpha = 0.05$) on the relationship between the variables.

Based on table 3, the relationship of person-organization fit with turnover intention is not significant (coefficient = -0.092, p-value = 0.544) so that hypothesis 1 that states person-organization fit significantly affects the turnover intention is rejected. Based on the distribution of respondents' answers, the value of statement items on compensation, the similarity with the company, and compatibility with organizational culture have low value. This

is because the compensation given by the organization is deemed incompatible with the workload given. In addition, employees feel that the organization has nothing in common with them and the organizational culture is incompatible with employees so the employees feel they have no suitability with the organization. Although the employees generally feel unsuited to the organization, the statement items on bonuses and facilities have a high value that affecting the low turnover intention. The research result on hypothesis 1 is not in line with the research conducted by Liu et al. (2010) on the Chinese public sector and Hassan (2012) in the top five commercial banks in the Pakistan city which states that person-organization fit has a significant negative effect on turnover intention. However, the results of this study are in line with research conducted by Latif and Bashir (2013) with positive and insignificant results between person-organization fit and turnover intention relationship.

Table 3 – Hypothesis Testing Result

| No | Relationship between Variables | Path Coefficient | T-statistics | p value | Conclusion |
|----|----------------------------------------------------------------------------------------------|------------------|--------------|---------|-----------------|
| 1. | <i>Person-Organization Fit (X1) → Turnover Intention (Y)</i> | -0.092 | 0.607 | 0.544 | Not Significant |
| 2. | Job satisfaction (X2) → <i>Turnover Intention (Y)</i> | -0.112 | 0.770 | 0.442 | Not Significant |
| 3. | <i>Person-Organization Fit (X1) → Organizational Commitment (Z)</i> | 0.436 | 4.011 | 0.000 | Significant |
| 4. | Job satisfaction (X2) → Organizational Commitment (Z) | 0.436 | 3.834 | 0.000 | Significant |
| 5. | Organizational Commitment (Z) → <i>Turnover Intention (Y)</i> | -0.456 | 2.985 | 0.003 | Significant |
| 6. | <i>Person-Organization Fit (X1) → Organizational Commitment (Z) → Turnover Intention (Y)</i> | 0.199 | | | Full Mediation |
| 7. | Job satisfaction (X2) → Organizational Commitment (Z) → <i>Turnover Intention (Y)</i> | 0.199 | | | Full Mediation |

Source: Data that have been processed by using SmartPLS 3.0

Based on table 3, the relationship of job satisfaction with turnover intention is not significant (coefficient = -0.112, p-value = 0.442) so that hypothesis 2 that expresses job satisfaction has significant effect to turnover intention is rejected. Based on the distribution of respondents' answers of statement items, promotion policy has the lowest value. Existing promotional policy does not fully make employees feel very satisfied. Marketing funding employees feel an injustice in terms of promotion. Most of them feel that they are not getting the promotion even after working optimally and exceeding the target given by the organization. They complain about the promotion given to other employees with low standard. But the employees feel that the job is interesting and it is fun to learn new things. This causes turnover intention of low marketing funding employees. The results of the research on hypothesis 2 are not in line with the research conducted by Tnay et al., (2013) and Ghandi et al., (2017) which states that job satisfaction has a significant negative effect on turnover intention. However, this study is in line with research conducted by Octaviani (2015) which shows insignificant results on the relationship of job satisfaction and turnover intention.

The test result on the coefficient of the parameter between person-organization fit to organizational commitment shows the coefficient value of 0.436 and value of p-value of 0.000 < 0.05 so that the influence is significant. Thus, hypothesis 3 that states person-organization fit has significant effect on organizational commitment is accepted. The existence of value conformity between employees and the organization causes the employees to keep committing to the organization in the long term. The commitment will also increase if the employees get tasks that require responsibility and growth opportunities. Hypothesis 3 supports the research conducted by Ahmadi et al. (2014), and Khaola and Sebotsa (2015).

The test result on the parameter coefficient between job satisfaction to organizational commitment shows the coefficient value of 0.436 and p-value of 0.000 < 0.05 so that the

influence is significant. Thus, hypothesis 4 that states job satisfaction has a significant effect on organizational commitment is accepted. The work involved plays an important role in how satisfied an employee is to his/her work which, in turn, affects the organizational commitment. The employee's sense of duty will make the job to be more interesting. In addition, with an interesting job, an employee feels an opportunity to learn new things and gain responsibility and challenge for his/her work. When the work is traversed with sincerity and full of responsibility and well-resolved will increase the organizational commitment of the employee. Hypothesis 4 supports the research conducted by Sutanto and Gunawan (2013), as well as Yamazakia and Petchdee (2015).

The test result on the parameter coefficient between organizational commitment to turnover intention shows the coefficient value of -0.456 and p-value of 0.003 < 0.05 so that the effect is significant. Thus, hypothesis 5 which states organizational commitment has a significant effect on intention turnover is rejected. The desire of an employee to continue to work for an organization because he/she agrees with the organization and indeed wants to do his/her job. In this case, the employees see the organization as a place where they feel important and competent to remain in the organization. In addition, the employees feel comfortable, secure, and feel the other benefits while in this organization. They also think that they do not get these benefits from other organizations. These kind of feelings make the employees feel at home in the organization and lower the turnover intention. Hypothesis 5 supports the research conducted by Jehanzeb et al., (2013).

The amount of indirect effect of a variable is obtained through the result of multiplication of path coefficient (beta) between the direct influence of person-organization fit (or job satisfaction) to organizational commitment (0.436) with direct influence of organizational commitment to turnover intention (0.456).

$$\text{Person Organization Fit (X1)} \rightarrow \text{Organizational Commitment (Z)} \rightarrow \text{Turnover Intention (Y)} = 0.436 \times 0.456 = 0.199$$

$$\text{Job Satisfaction (X2)} \rightarrow \text{Organizational Commitment (Z)} \rightarrow \text{Turnover Intention (Y)} = 0.436 \times 0.456 = 0.199$$

Comparison of indirect influence, both person-organization fit and job satisfaction, with turnover intention through organizational commitment with direct influence between person-organization fit/ job satisfaction toward turnover intention obtained results 0.199 > 0.092. It can be stated that organizational commitment serves as full mediation. This means that both person-organization fit and job satisfaction are not able to significantly influence turnover intention without going through organizational commitment. The compatibility or suitability between the employee and the organization strongly determines how satisfied and bound the employee is with the organization he/she works for. In turn, the suitability will surely increase the organizational commitment of employees that will impact on the performance of employees and organization. The employees who are committed to maintaining commitment have a sense of loyalty to the organization that will undermine employees' intention to migrate to the workplace that impacts the decline in the employee turnover intention. Similarly, job satisfaction has no significant effect on turnover intention. Hence, the need for mediation of organizational commitment to job satisfaction can influence turnover intention significantly. This means that the more satisfied the marketing funding employees with their organization (PT Bank NTB), the higher their commitment to the organization that will ultimately lead to lower turnover intention or the willingness of employees to get out of the organization where they work now. The employees who are satisfied with the organization will find the job interesting, they are happy to learn new things, satisfied with salary and benefits, satisfied with the attitude of superiors in terms of providing support and motivation, satisfied with the attitude of other colleagues who support each other, and satisfied with the existing promotion policy. The result will have an impact on the organizational commitment they hold. An employee, who has the high sense of commitment, will tend to have a sense of loyalty to the organization, works maximally and will stay in the organization in the long-term. There will be no tendency for turnover intention to appear in the employees' minds which will affect the employee turnover.

CONCLUSION

Based on the above description, it can be deduced as follows: person-organization fit has no significant effect on turnover intention, job satisfaction has no significant effect on turnover intention, person-organization fit has significant effect on organizational commitment, job satisfaction has significant effect on turnover intention, organizational commitment influences significant to turnover intention, person-organization fit can influence turnover intention with mediation of organizational commitment, job satisfaction can influence turnover intention with mediation of organizational commitment.

There is a limitation in this study. First, the factors affecting turnover intention in this study consist of only three variables, namely person-organization fit, job satisfaction, and organizational commitment. Meanwhile, there are many other factors affecting turnover intention. Second, the sample used in this study is only done on marketing funding employees of PT. Bank NTB so that the results obtained may make a difference if done on different types of organization such as in BUMD, the government bank, private bank, or the finance company.

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DOES FAMILY SOCIAL SUPPORT AFFECT STARTUP BUSINESS ACTIVITIES?

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ABSTRACT

In recent years, StartUp has shown a considerable progress in Indonesia. Although most of the StartUps are newly established companies in phase to find the right markets, the StartUps are expected to contribute to the economy and solve local problems. In Indonesia most of the StartUps are still in the idea stage. Therefore, they have no profit, loss, or even failure. It causes the StartUps to be difficult in gaining trust from investors. To overcome these problems, support from various parties is necessary for the development of StartUp activities. One of them is a support from family (Family Social Support). Previous studies have shown that family support contributes to the success of an entrepreneur. However, there has been no research on the relationship between family support with StartUp activities, especially in developing countries like Indonesia. This study examined the influence of family social support in the form of financial capital support, social capital, human capital, physical capital, and family cohesiveness on StartUp activities in Indonesia by using Poisson regression analysis. The results showed that family cohesiveness had a significant effect on the increase of StartUp activities.

KEY WORDS

Family social support, startup activities, Indonesia.

Entrepreneurship is an issue that has been talked about in several years. All type of companies, including big companies and newly-established companies—or known as StartUps—are showing considerable growth in many countries around the world. On average, StartUps in the United States increased from 0.28% in 2014 to 0.31% in 2015 per month (www.kauffman.org, 2015). In Ireland, the number of new businesses increased by 21% in the first half of 2016 compared to the previous year. In Asia, the the highest number of StartUps was found in India, which was at 3,475 (www.startupranking.com, 2017).

Similar with many developed countries, the StartUp businesses in Indonesia also show a rapid increase in number. Every year, and even every month, many new StartUp owners appear. The data showed that the number of StartUp businesses in Indonesia currently reached 1,454 and it was ranked as third in the world after the United States and India (www.startupranking.com, 2017). In other words, according to the survey, the number of StartUps in Indonesia is the highest in the ASEAN region. Even some StartUp businesses in Indonesia occupied TOP 100 StartUps in the world, namely: Tokopedia, Bukalapak, Blibli, and Traveloka (www.startupranking.com, 2017). Another research institute, CHGR in 2016, predicted that StartUp digital businesses in Indonesia will grow 6.5 times by 2020 and estimated that there would be 13,000 StartUp businesses which was running in the year.

StartUps in Indonesia can be classified into three groups: game creator StartUp, educational application StartUp and trading StartUp, such as e-commerce trading and information trading (www.dailysocial.net, 2016). The three groups are predicted to have a potential market and growing rapidly in Indonesia. Moreover, nowadays, there has been established a lot of communities of StartUp founders in Indonesia. These communities ease the founders to share, guide, and even attract the investors, such as Bandung Digital Valley (bandungdigitalvalley.com), Jogja Digital Valley (jogjadigitalvalley.com), Inkubator Bisnis in Semarang (www.ikitas.com), Stasion (stasion.org) which is a container for local startUps in Malang city, etc.

StartUps refer to recently operated companies. Most of these companies are newly-established companies and are in a development and research phase to find the right markets

(Calopa et al., 2014). StartUp businesses are usually, though not always, related to high technology because most of their products are in the form of digital applications. Seeing a large number of StartUps and their rapid growth in Indonesia, these businesses are expected to solve local problems and can also provide a positive contribution to the economic growth and community's welfare. Various studies showed that entrepreneurship could strengthen economic growth and reduced unemployment through increased competition. Hence, business productivity and new technological innovations would continue to grow (Koellinger and Thurik, 2012; Fritsch, 2008). Therefore, with more and more growing and successful StartUps, they are expected to reduce unemployment and poverty and can provide job openings for job seekers.

Given the considerable potential of StartUp's roles, many countries provide support to eliminate obstacles on StartUps, with the ultimate goal of increasing the overall number of StartUps in their economies. One of the obstacles to a successful StartUp is financing. In Indonesia, many StartUps are still in the idea stage, so it has no profit and has a high level of risk. This stage is known as the *valley of death* because many StartUps experience a loss or even a failure in this stage. It makes StartUps become difficult to obtain funding because funding agencies such as venture capital, banks or other non-bank financial institutions have not wanted to give capital investment or loan. To overcome these problems, the support of various parties is needed by the StartUps to at least be out of the *valley of death* stage. Government support at this stage can be provided through a funding scheme that can facilitate and encourage StartUp business actors to move to the next step. In addition to government support, a good and strong business model and family support are essential to the development of StartUp activities.

Previous research had shown that family support contributed to the success of an entrepreneur in the family business (Koropp et al., 2013; Rodriguez et al., 2009), building social networks (Newbert et al., 2013; Grossman et al., 2012), and the success of MSMEs (Parinduri, 2014; Spence et al, 2003). Although many studies had linked the role of family support to entrepreneurial success, there has been no research related to family support relationships with StartUp activities, especially in a developing country like Indonesia.

In this study, StartUp activities are defined as the individual behaviors or activities in the process of starting a new venture (Carter et al., 2004 and Gartner et al., 2004 in Edelman et al., 2016). Family social support in the form of social capital, financial capital, human capital, physical capital, and family cohesiveness are categorized into tangible and intangible family support. Family cohesiveness is categorized as intangible family support such as the willingness of families to listen or to empathize (Adams et al., 1996 in Edelman et al., 2016). On the other hand, the other supports like social capital, financial capital, human capital, and physical capital are categorized as tangible support aimed to solve a problem (Manolova et al, 2014). Based on this background, in this study, we examined the influence of family social support on StartUp activities in Malang, Indonesia.

LITERATURE REVIEW

A StartUp was a temporary organization that was formed with the aim to find a repeatable and scalable business model (Blank, 2012). Meanwhile, Ries (2011) defined StartUp as an institution created to create new and innovative products or services in a state of high uncertainty. StartUp products and consumers are not known from the beginning. This is different from the characteristics of MSMEs (Micro-, Small- and Medium-scale Enterprises) which are to serve the existing market segmentation (known customer) with the existing products (known product). StartUps are oriented towards sustainable growth, while MSMEs are oriented to profit. Therefore, StartUps always strive to create new innovations, develop new consumer shares, cultivate new needs from the community, determine new business opportunities, and always pursue challenges. StartUps are riskier than MSMEs because of the possibility to experience greater failure. StartUps will become small businesses if their business models have been found, generated profit and have a fixed team.

The high uncertainty that StartUps face require solutions to reduce the risk. In other words, a scheme or a model is needed to solve the problems that StartUps face in order to

minimize StartUp failures. This is because of the important role of StartUps in sustaining the economy of a country, including in Indonesia. Therefore, it is necessary to do research to examine the issues related to StartUp. Studies related to StartUps in developing countries have been more often associated with external factors, such as technology utilization (Audretsch and Acs, 1994), accounting systems (Davila and Foster, 2004), management systems (DelVecchio et al, 2014), investment policies (Nanda and Kropf, 2012), and economics (Boadway and Trembley, 2003). There are still a few number of researches that relate StartUps to internal factors such as family social support. This is because external factors are considered to have a greater share of the success of StartUp businesses than internal factors, especially family support. In fact, the role of the family cannot be ignored in the course of the success of StartUps through the *valley of death* stage. StartUps as pioneering ventures still do not have enough trust from stakeholders. Therefore, they need internal support, especially from family, to start and develop StartUp businesses.

Social support was the perception or experience of being loved, cared for by others, valued, and was a part of the mutually supportive social network (Taylor, 2011 in Edelman et al., 2016). Social support can come from work environments and non-work environments. Family is a social support comes from the most important non-working environment. Aldrich and Cliff (2003) argued that family had the potential to have a profound effect on the company.

The focus of this research is family social support in assisting StartUp business activities. Kim et al. (2013) stated that social support from family was very important to start a business. Family social support can be supports in the form of social capital, financial capital, human capital, physical capital, and family cohesiveness.

Social capital referred to a network of closely related personal and organizational relationships (Bastie et al., 2013). Strong relationships tended to be long-term relationships based on frequent contacts, such as those between family members, friends, or communities (Coleman, 1988 in Manolova et al., 2014). Conversely, weak bonds tended to be short-term relationships based on rare interactions and exchanges (Granoveter, 1973 in Manolova et al., 2014). In this study, social capital referred to a special form of internal social capital developed through dynamic relationships and mutual trust between family members (Dyer et al., 2014). Family social capital might have a strong influence on the business creation process, even when the family was not directly involved in entrepreneurial initiatives (Aldrich and Cliff, 2003; Steier, 2007).

H1: Family social capital support has a significant effect on StartUp activities.

Financial capital is very important for a new company. With the availability of entrepreneurial financial capital, a company can be more flexible to perform a wider StartUp activities. But since StartUp is a new business and lack of guarantees and credit history, it will be difficult for StartUp to get a loan from the Bank. Financially, newborn entrepreneurs typically obtained early-stage funding from friends and family (Winborg and Landstrom, 2001). A recent study showed that there was a positive influence of family involvement on StartUp debt financing (Chua et al., 2011).

H2: Family financial capital support has a significant effect on StartUp activities.

The concept of human capital was rooted in the idea that people had skills, experience and knowledge that had economic value for themselves and their company (Cetindamar et al., 2012). Entrepreneurs with business experience had knowledge of the various activities associated with starting a business, how to develop contacts with customers and investors, how to collect and allocate resources, and how to attract and retain employees (Grichnik et al., 2014). StartUp owners, especially newborns, usually lacked managerial experience. Therefore, young entrepreneurs viewed the family as a way to overcome the lack of aspects of human capital (Hoang and Antoncic 2003). Family human capital was defined as the knowledge, skills and abilities of each family member (Danes et al., 2009). Family human capital was a potential resource for the creation of new business and for the development of the company (Sorenson, 2007).

H3: Family human capital support has a significant effect on StartUp activities.

Physical capital consisted of family assets such as the use of a family's house as the business office, family's vehicle, phone and computer that could be used to start a new business (Dyer et al., 2014).

H4: Family physical capital support has a significant effect on StartUp activities.

Family Cohesiveness referred to the level of connectedness and emotional bonding between family members (Laspita et al., 2012). Families with high cohesiveness were characterized by intense norms, behavior, understanding and intense emotional connection (Granoveter, 1992). Newbert et al. (2013) stated that newborn entrepreneurs would look for individuals who had strong emotional attachments with them for various forms of support during the StartUp creation process. Family cohesiveness is crucial for launching a StartUp with young owners, because they still have little entrepreneurial experience and do not yet have a strong business network. Therefore, they have to rely on family's connections.

H5: Family cohesiveness has a significant effect on StartUp activities.

METHODS OF RESEARCH

The sample of this research was the owners or creators of StartUps in Malang area, East Java, Indonesia. The reason for choosing StartUps in Malang area, East Java, Indonesia as the object of research was because of the development of StartUp communities in Malang which shows an increasing appearance of the emerging StartUps. Questionnaires were distributed at 100 StartUps in Malang, East Java, Indonesia and the effective rate of the data used was 96% or 96 respondents. The variables in this study consisted of dependent variable and independent variable. The dependent variable proposed in this study was StartUp Activities by adopting Edelman et al's research (2016) which consisted of 9 stages (1) Thinking about the first business ideas; (2) Formulating business planning; (3) Identifying market opportunities; (4) Looking for potential partners; (5) Buying equipment; (6) Developing products; (7) Discussing with potential customers; (8) Applying for funding to financial institutions; (9) Determining when a business will run. On the other hand, the independent variable for this research was family social support which was adopted from Manoloval et al's (2014) and Lansberg and Astrachan's (1994) research which consisted of (1) financial capital, measured by 3 items; (2) social capital, measured by 2 items; (3) human capital, measured by 3 items; (4) physical capital, measured by 2 items and (5) family cohesiveness, measured by 3 items. The independent variable used the Likert scale of 1 to 5 points, where 1 meant "strongly disagree" and 5 meant "strongly agree". Hypothesis testing has been conducted, which aimed to determine the influence of family social support through its variables on the StartUp activities (Kim et al., 2014). The researchers tested the relationship between these variables by using Poisson Regression analysis because the dependent variable was the number of business activity stages (Edelman et al, 2016).

RESULTS OF STUDY

This study used questionnaire as one of the instruments of research, therefore, its reliability and validity needed to be tested.

Table 1 – Reliability Test Results

| No | Variable | Cronbach Alpha Value | Detail |
|----|---------------------|----------------------|----------|
| 1 | Financial Capital | 0.851 | Reliable |
| 2 | Social Capital | 0.937 | Reliable |
| 3 | Human Capital | 0.908 | Reliable |
| 4 | Physical Capital | 0.734 | Reliable |
| 5 | Family Cohesiveness | 0.840 | Reliable |

Reliability test was used to test whether the respondent's answer to a question in this research questionnaire was consistent or not random. Ghazali (2013: 48) explained that a construct or a variable was said to be reliable if its Cronbach Alpha value was > 0.70. Based on

Cronbach statistical test results in Table 1, it was known that the Cronbach Alpha value of each variable used in this study was greater than 0.70. Therefore, all the variables used in the research could be said as reliable.

A questionnaire was said to be valid if the question on the questionnaire was able to reveal something that would be measured by the questionnaire. Validity test was done by doing a Bivariate correlation analysis between each score indicator with a total score of the construct. Validity test was done by comparing the significance value of test result and the significance level of 5%. Based on the test conducted as in Table 2, the value of Sig. of each indicator against the sig. value of construct total score was less than 0.05. Thus, each attribute or statement item in this questionnaire could be said to be valid.

Table 2 – Validity Test Results

| No | Item | Sig. Value | Detail |
|----|-----------------------|------------|--------|
| 1 | Financial Capital 1 | 0.00 | Valid |
| 2 | Financial Capital 2 | 0.00 | Valid |
| 3 | Financial Capital 3 | 0.00 | Valid |
| 4 | Social Capital 1 | 0.00 | Valid |
| 5 | Social Capital 2 | 0.00 | Valid |
| 6 | Human Capital 1 | 0.00 | Valid |
| 7 | Human Capital 2 | 0.00 | Valid |
| 8 | Human Capital 3 | 0.00 | Valid |
| 9 | Physical Capital 1 | 0.00 | Valid |
| 10 | Physical Capital 2 | 0.00 | Valid |
| 11 | Family Cohesiveness 1 | 0.00 | Valid |
| 12 | Family Cohesiveness 2 | 0.00 | Valid |
| 13 | Family Cohesiveness 3 | 0.00 | Valid |
| 14 | Family Cohesiveness 4 | 0.00 | Valid |

The research questionnaire was distributed to the students of the StartUp communities in Malang Raya. Questionnaires that have been filled and received by researchers were as many as 100 questionnaires. However, only 96 questionnaires or 96% which could be processed and analyzed because the 4 questionnaires returned to the researcher were incomplete.

Analysis on demographic profiles of respondents was done to determine the background differences of each respondents, in this case were StartUp business actors who were members of the StartUp community. Demographic profiles consisted of age, gender, marital status, parental employment status, educational status, and the department or study program being pursued. Based on Table 3, it was known that the respondents were still in productive age, where the youngest respondent was 17 years old and the oldest was 30 years old. The majority of respondents in this study was in the age range of 17 years to 21 years, which was amounted to 88.54% or 85 respondents. Meanwhile, the remaining 11 respondents or 11.46% were in the age range of 22 years to 30 years. Most of the respondents was 20 years old, which was amounted to 31 respondents. On the contrary, the least of the respondents was 30 years old, which was amounted to 1 respondent. Meanwhile, based on gender, the number of male respondents was 49 respondents and the number of female respondents was 47 respondents. Based on marital status, the majority of respondents was not married (94 respondents) or 97.9% of respondents. Meanwhile, based on the parental employment status, it was shown that there were only 2 respondents whose parents were not employed, 27 respondents whose both parents were employed, and 12 respondents whose only their mothers who were employed. The majority of respondents was consisted of those whose only his father who were employed, which was amounted to 55 people or 57.3%. Based on educational status, the majority of the respondents were in their bachelor/S-1 degree, which was amounted to 90 respondents or 93.8%. Most of them was taking Business Administration Study program, which was amounted to 31 respondents or 32,3%.

This research also attempted to map the StartUp business profile of respondents. Based on Table 4, it was known that the majority of 79 respondents or 82.3% had never worked as employees before starting a StartUp business. Meanwhile, 68 respondents or 70.8% had parents who worked as entrepreneurs, and the rest of 28 respondents or 29.2% did not have

parents who worked as entrepreneurs. When running StartUp business, 62.5% or 60 respondents had attended training or seminars related to StartUp business, while the rest of 37.5% or 36 respondents never attended training or seminars. There were many people who motivated the respondents in running the StartUp business.

Table 3 – Demographic Profile of Respondents

| | Frequency (N=96) | % |
|------------------------------------|------------------|------|
| Age | | |
| 17 | 2 | 2.1 |
| 18 | 18 | 18.8 |
| 19 | 14 | 14.6 |
| 20 | 31 | 32.3 |
| 21 | 20 | 20.8 |
| 22 | 5 | 5.2 |
| 23 | 3 | 3.1 |
| 25 | 2 | 2.1 |
| 30 | 1 | 1.0 |
| Gender | | |
| Male | 49 | 51.0 |
| Female | 47 | 49.0 |
| Marital Status | | |
| Single | 94 | 97.9 |
| Married | 2 | 2.1 |
| Parental Employment Status | | |
| Only the father who is employed | 55 | 57.3 |
| Only the mother who is employed | 12 | 12.5 |
| Both of them are employed | 27 | 28.1 |
| Both of them are not employed | 2 | 2.1 |
| Educational Status | | |
| In the process of pursuing S1 | 90 | 93.8 |
| In the process of pursuing S2 | 1 | 1.0 |
| Senior /Vocational High School | 2 | 2.1 |
| Have gained the title of S1 degree | 3 | 3.1 |
| Department/Study Program | | |
| Business Administration | 31 | 32.3 |
| Public Administration | 9 | 9.4 |
| International Business | 4 | 4.2 |
| Economics | 1 | 1.0 |
| Management | 2 | 2.1 |
| Tourism | 5 | 5.2 |
| Urban and Regional Planning | 1 | 1.0 |
| Taxation | 5 | 5.2 |
| Farming | 5 | 5.2 |
| Information System | 4 | 4.2 |
| Informatics Engineering | 8 | 8.3 |
| Civil Engineering | 1 | 1.0 |
| Fisheries Technology | 1 | 1.0 |
| Others | 19 | 19.8 |

The majority was motivated by school friends or lecturers, which was amounted to 30 respondents or 31.3%, 26 respondents or 27.1% was motivated by parents, and 20 respondents or 20.8% was motivated by successful public figures. The majority of StartUp business that was initiated was the first StartUp, which was 55 respondents or 57.3%, the second StartUp was 23 respondents, the third Startup was 17 respondents, and the fourth StartUp was 1 respondent. A total of 52 respondents or 54.2% stated that they had yet experienced a failure when pioneering StartUp business, and the rest of 44 respondents stated that they never experienced failure. Meanwhile, the most widely used StartUp type were: Food & Beverage, which amounted to 25 respondents and IT Service & Solutions, which amounted to 15 respondents. StartUp business was divided into a StartUp that was run independently or alone, and a StartUp that was run with teams. 6 respondents or 6.3% said that their StartUp

businesses were run without team members. On the other hand, the StartUp Businesses run by 1 team member was 7 respondents (7,3%), 2 members were 15 respondents (15,6%), 3 members were 31 respondents (32,3%), 4 members were 21 respondents (21.9%), 5 members were 6 respondents (6.3%), 6 members were 7 respondents (7.3%), 7 members were 1 respondent (1.0%), 15 members were 1 respondents (1.0%), and 38 members were 1 respondent (1.0%).

Table 4 – Socio-economic Profile of Respondents

| | Frequency (N=96) | % |
|---------------------------------------|------------------|------|
| Has ever worked as an employee | | |
| Yes | 17 | 17.7 |
| No | 79 | 82.3 |
| Seminar or Training | | |
| Yes | 60 | 62.5 |
| No | 36 | 37.5 |
| Parents work as entrepreneurs | | |
| Yes | 68 | 70.8 |
| No | 28 | 29.2 |
| Motivators | | |
| Self-motivated | 3 | 3.1 |
| Teacher/Lecturer | 7 | 7.3 |
| Others | 2 | 2.1 |
| Parents | 26 | 27.1 |
| Partner | 1 | 1.0 |
| Successful Public Figures | 20 | 20.8 |
| Biological Sibling (younger or older) | 1 | 1.0 |
| Relatives outside the core family | 5 | 5.2 |
| Bestfriend | 1 | 1.0 |
| School/College Friends | 30 | 31.3 |
| Failure | | |
| Yes | 52 | 54.2 |
| No | 44 | 45.8 |
| StartUp number | | |
| 1 | 55 | 57.3 |
| 2 | 23 | 24.0 |
| 3 | 17 | 17.7 |
| 4 | 1 | 1.0 |
| Type of StartUp | | |
| Agriculture | 1 | 1.0 |
| E-Commerce | 6 | 6.3 |
| E-marketing | 2 | 2.1 |
| Education | 4 | 4.2 |
| Fashion & Beauty | 8 | 8.3 |
| Food & Beverage | 25 | 26.0 |
| Healthcare | 3 | 3.1 |
| IT Services & Solutions | 15 | 15.6 |
| Lainnya | 13 | 13.5 |
| Social Enterprise | 8 | 8.3 |
| Transportation | 2 | 2.1 |
| Travel & Tourism | 8 | 8.3 |
| WordPress Theme | 1 | 1.0 |
| Number of team members | | |
| 0 | 6 | 6.3 |
| 1 | 7 | 7.3 |
| 2 | 15 | 15.6 |
| 3 | 31 | 32.3 |
| 4 | 21 | 21.9 |
| 5 | 6 | 6.3 |
| 6 | 7 | 7.3 |
| 7 | 1 | 1.0 |
| 15 | 1 | 1.0 |
| 38 | 1 | 1.0 |

There are five assumptions that must be met if a study uses Poisson Regression, namely:

- Dependent variable must be discrete and consists of count data.

Dependent variable in this research was StartUp Activities in the form of dichotomic data, which was StartUp activities stages that consisted of: 1) thinking of first business ideas, 2) formulating business planning, 3) identifying market opportunities, 4) finding potential partners, 5) buying equipment, 6) developing products, 7) discussing with potential customers, 8) applying for funding to financial institutions, 9) determining when the business will run. It showed that the dependent variable in this research was in the form of discrete data, that was variables which were in the form of categorization data or differentiated or classified certain types.

- Have one or more independent variables that can be measured on a continuous scale (ordinal scale, interval scale, or ratio scale) or nominal scale (dichotomous).

This study had five independent variables, namely: Financial Capital, Social Capital, Human Capital, Physical Capital, and Family Cohesiveness which was measured on a continuous scale in the form of ratio scale.

- Dependent Variables are Poisson distributed

Kolmogorov-Smirnov normality test with a significance level of 5% is used to determine whether the data in the variables to be analyzed in this study is Poisson distributed or not. If the data is Poisson distributed, then statistical analysis can use a parametric approach. On the contrary, if the data is not Poisson-distributed, then the analysis uses a non-parametric approach. The basis for decision making in Kolmogorov Smirnov test is as follows:

- If Signification value is > 0,05 then data is normally distributed;
- If the Significant value is <0.05 then the data is not normally distributed.

Table 5 – Poisson Distribution Test Results

One-Sample Kolmogorov-Smirnov Test

| | | StartUp Activities |
|----------------------------------|----------|--------------------|
| N | | 96 |
| Poisson Parameter ^{a,b} | Mean | 5.84 |
| Most Extreme Differences | Absolute | .117 |
| | Positive | .097 |
| | Negative | -.117 |
| Kolmogorov-Smirnov Z | | 1.146 |
| Asymp. Sig. (2-tailed) | | .145 |

a. Test distribution is Poisson.

b. Calculated from data.

Based on the data in Table 5, it was known that Kolmogorov Smirnov Value was 1.146 and had a significance value of > 0.05, which was 0.145. It showed that the data was normally distributed or in other words the Poisson-distributed variable.

- Have the assumption of Equidispersion

The Equidispersion assumption shows the conditions under which the mean and variance of the dependent variable are equal. In other words, Equidispersion means that the value of the variance of variable Y that was given by X must be equal to the mean value, that is $V ar (Y|x) = E (Y|x) = \mu$

Table 6 – Equidispersion Assumption Test Results

Descriptive Statistics

| | N | Mean | Variance |
|--------------------|----|------|----------|
| StartUp Activities | 96 | 5.84 | 6.154 |
| Valid N (listwise) | 96 | | |

Based on Table 6, it was known that the dependent variable in this study, StartUp Activities had an average value (Mean) of 5.84 and had a variance value of 6.154. It showed that the assumption of Equidispersion was fulfilled.

- Have freedom of observation, or in other words, there is no linear relationship between independent variables in the regression model.

Multicollinearity test is used to know whether or not there is a deviation of classical assumption of multicollinearity, specifically, the existence of linear relationship between independent variables in the regression model. Multicollinearity in this study was detected by using Tolerance and Variance Inflation Factor (VIF) values. The presence of multicollinearity is indicated by a cutoff value of Tolerance value of ≤ 0.10 or VIF value of ≥ 10 . Based on Table 7, it was known that no independent variable had a Tolerance value less than 0.1 and no independent variable had a VIF value greater than 10. It showed that there was no correlation between independent variables or it could be concluded that there was no multicollinearity.

Table 7 – Multicollinearity Assumption Test Results

Coefficients^a

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Collinearity Statistics | |
|---------------------|-----------------------------|------------|---------------------------|-------|------|-------------------------|-------|
| | B | Std. Error | Beta | | | Tolerance | VIF |
| 1(Constant) | 2.659 | 1,591 | | 1,671 | ,098 | | |
| Financial Capital | -.215 | ,266 | -,097 | -,808 | ,421 | ,713 | 1,403 |
| Social Capital | ,263 | ,273 | ,133 | ,964 | ,337 | ,544 | 1,839 |
| Human Capital | -.095 | ,298 | -,042 | -,318 | ,752 | ,589 | 1,696 |
| Physical Capital | -,093 | ,300 | -,042 | -,311 | ,757 | ,555 | 1,802 |
| Family Cohesiveness | ,830 | ,366 | ,242 | 2,267 | ,026 | ,909 | 1,100 |

a. Dependent Variable: *StartUp* Activities

Based on Table 8, it was known that the mean value of the dependent variable was 5.84 and the variance was 6.155 (2.481^2) which showed the ratio of 6.155: 5.84 = 1.05. The Poisson distribution assumed a ratio of 1, it meant that the Mean and Variance were the same/equal. Therefore, it could be seen that before adding an explanatory variable there was a small amount of Overdispersion.

Table 8 – Overdispersion Test Results

Continuous Variable Information

| | N | Minimum | Maximum | Mean | Std. Deviation |
|----------------------------------------------|----|---------|---------|--------|----------------|
| Dependent Variable <i>StartUp</i> Activities | 96 | 1 | 9 | 5.84 | 2.481 |
| Covariate Financial Capital | 96 | 1,00 | 5,00 | 2,5799 | 1,12103 |
| Social Capital | 96 | 1,00 | 5,00 | 3,0677 | 1,25367 |
| Human Capital | 96 | 1,00 | 5,00 | 3,5139 | 1,09962 |
| Physical Capital | 96 | 1,00 | 5,00 | 2,9010 | 1,12769 |
| Family Cohesiveness | 96 | 1,00 | 5,00 | 4,2630 | ,72218 |

Table 9 – Goodness of Fit Test Results

Goodness of Fit^a

| | Value | Df | Value/df |
|--------------------------------------|----------|----|----------|
| Deviance | 113.187 | 90 | 1.258 |
| Scaled Deviance | 113.187 | 90 | |
| Pearson Chi-Square | 94.117 | 90 | 1.046 |
| Scaled Pearson Chi-Square | 94.117 | 90 | |
| Log Likelihood ^b | -224.395 | | |
| Akaike's Information Criterion (AIC) | 460.790 | | |
| Finite Sample Corrected AIC (AICC) | 461.734 | | |
| Bayesian Information Criterion (BIC) | 476.176 | | |
| Consistent AIC (CAIC) | 482.176 | | |

Dependent Variable: *StartUp* Activities

Model: (Intercept), X1, X2, X3, X4, X5

a. Information criteria are in smaller-is-better form.

b. The full log likelihood function is displayed and used in computing information criteria.

The Goodness of Fit test can be used to assess how well the model is used in a study. Table 9 showed the df value for the Pearson Chi-Square line of 1.046. It showed that the model in this study met the assumption of Equidispersion. The value of 1 denoted Equidispersion, whereas a value greater than 1 indicated Overdispersion and a value below 1 indicated Underdispersion.

The Omnibus test is used to determine whether all independent variables are able to improve the model rather than the intercept only model, i.e the model that does not include the independent variable. Table 10 showed the significance value of > 0.05, that was 0.184 which showed that the overall model was statistically significant. In other words, the addition of all independent variables yielded a statistically significant model.

Table 10 – Omnibus Test Results

Omnibus Test^a

| Likelihood Ratio Chi-Square | Df | Sig. |
|-----------------------------|----|------|
| 7,535 | 5 | .184 |

Dependent Variable: *StartUp* Activities
 Model: (Intercept), X1, X2, X3, X4, X5

a. Compares the fitted model against the intercept-only model.

Table 11 showed that the variables of Financial Capital, Social Capital, Human Capital, and Physical Capital had significance value of > 0,05. It meant that the first, second, third, and fourth hypothesis in this study which stated that Financial Capital, Social Capital, Human Capital, and Physical Capital significantly affected *StartUp* Activities were rejected. Meanwhile, the Family Cohesiveness variable had a significance value of <0.05. It meant that the fifth hypothesis that stated that Family Cohesiveness significantly affected the *StartUp* Activities was received. Exponentiated Value for the Family Cohesiveness variable was 1.025, it meant that the *StartUp* activities value would be larger by 1.025 for each addition of Family Cohesiveness.

Table 11 – Hypothesis Test Results

Parameter Estimates

| Parameter | B | Std. Error | 95% Wald Confidence Interval | | Hypothesis Test | | | 95% Wald Confidence Interval for Exp(B) | | |
|-------------|----------------|------------|------------------------------|-------|-----------------|--------|------|-----------------------------------------|-------|-------|
| | | | Lower | Upper | Wald Square | Chi-df | Sig. | Exp(B) | Lower | Upper |
| (Intercept) | 1.146 | .2981 | .561 | 1.730 | 14.770 | 1 | .000 | 3.144 | 1.753 | 5.640 |
| X1 | -.035 | .0443 | -.122 | .052 | .626 | 1 | .429 | .966 | .885 | 1.053 |
| X2 | .045 | .0453 | -.044 | .134 | .979 | 1 | .322 | 1.046 | .957 | 1.143 |
| X3 | -.018 | .0507 | -.117 | .081 | .126 | 1 | .722 | .982 | .889 | 1.085 |
| X4 | -.015 | .0501 | -.113 | .084 | .084 | 1 | .772 | .986 | .893 | 1.087 |
| X5 | .157 | .0678 | .025 | .290 | 5.392 | 1 | .020 | 1.171 | 1.025 | 1.337 |
| (Scale) | 1 ^a | | | | | | | | | |

Dependent Variable: *StartUp* Activities
 Model: (Intercept), X1, X2, X3, X4, X5

a. Fixed at the displayed value.

DISCUSSION OF RESULTS

Schoof (2006) said that it was necessary to distinguish between young entrepreneurs and adult entrepreneurs. It was because young entrepreneurs had different characteristics with more experienced entrepreneurs (Sarasvathy, 1998). Young entrepreneurs had limited resources, minimal life experience and work experience. Young entrepreneurs were confronted with greater obstacles than adult entrepreneurs. To date, there had been an assumption that the main obstacles faced by young entrepreneurs was the difficulty of access to finance or funds. In fact, according to Schoof (2006), cultural and social background, lack of

entrepreneurship education, frequent changes in rules and administrative frameworks, and lack of help and support in running a business were also categorized as constraints faced young entrepreneurs. The distinction between young entrepreneurs and experienced entrepreneurs was useful in determining the right form of help and support for young entrepreneurs when starting their StartUp business. The variety of constraints faced by young entrepreneurs raised the assumption that support from the family, as the closest party to young entrepreneurs, had an important role in the success of a StartUp business.

This research tried to test whether family support had an influence on the early activities of young entrepreneurs who were just starting business. Based on hypothesis test results, it was known that family social support in the form of financial capital support, social capital support, human capital support and physical capital support did not affect StartUp activities in Malang. Only the family cohesiveness variable which had an influence on StartUp activities of young entrepreneurs in Malang. The results of this study contradicted the initial assumption that the role of family in providing capital could affect the scope of the initial activities undertaken by young entrepreneurs.

As explained by Manalova, et al. (2014) that the role of family support in the development of the StartUp business was complex and multidirectional. Family support could have a positive or negative effect. New StartUp companies were growing in the face of a high risk of failure. Therefore, family support in the form of financial capital, labor, business knowledge, or business network could help young entrepreneurs in minimizing the risks so as to reach the stage of launching. However, family support also turned out to slow the performance of young entrepreneurs. The existence of family protection in the form of capital provision required by young entrepreneurs early in the growth of StartUp business could decrease their strategic orientation, growth orientation, or organizational culture (Bradley et al., 2011). The "comfort" provided by the family would reduce the desire of young entrepreneurs to generate profits quickly, thereby reducing the pressure to better identify market opportunities or finding potential partners that could help the business development. Young entrepreneurs also tended not to be maximized in business planning because they had no urgent interest in external investment that usually required attractive business model proposals.

In contrast to previous research which showed that there was an influence of family social support on StartUp business activities (both positive and negative influence), this research showed that there was no influence of social social support on StartUp business activities. Only the variable of family emotional support or family cohesiveness that had an influence on StartUp activities. The explanation of the results of this study was that not all family supports encouraged to establish a StartUp business by young entrepreneurs, especially in cultures that gave a high value to stability and prestige over a kind of work (Krueger et al., 2013). Most Indonesians considered the job as an entrepreneur as unable to provide a good future and financial stability because of the high risk of failure. In addition, the civil service profession or the employee of a well-known private company was considered to be more prestigious than the entrepreneurs in the social strata of the community, although the income of the entrepreneur was not necessarily smaller than the office work. In the context of this kind of culture, the family would not provide capital support when young entrepreneurs began to pioneer their business. However, in the results of this study, although the family did not provide support in the form of financial capital, labor, business knowledge, or business networks, the family provided emotional support to young entrepreneurs. In other words, the family provided an opportunity for young entrepreneurs to try to develop StartUp business independently. It was slightly different from the Kellermanns & Eddleston (2004) study which stated that the lack of family support prevented young entrepreneurs from starting a pioneer business in order to avoid family conflicts.

Emotional closeness with family was more necessary in developing StartUp business for young entrepreneurs than physical facilities or support in the form of financial capital, business knowledge, or business network. In fact, 70.8% of respondents in this study had parents who worked as entrepreneurs. Supposedly, young entrepreneurs could easily obtain financial, knowledge, or business family support from the family when they are developing their StartUp business. However, it turned out that young entrepreneurs relied on their own capabilities in

developing their StartUp business, despite still having limitations. A total of 44.79% of respondents were students with business education, management, and economics background. Both of respondents who had a business education background or not, admit that they joined a training to increase their insight in the business world. The basic knowledge in business world was what they use to grow their StartUp business. Young entrepreneurs seeked an access to finance either in the form of debt or capital independently by applying to external parties such as angel investors or banks. Similarly, access to distribution networks or potential customers and physical capital such as places and facilities to run business activities were also obtained by young entrepreneurs without relying on family assistance.

Family social support would be provided when young entrepreneurs were able to demonstrate that his/her pioneer business developing in a positive direction. Therefore, the presence or absence of family social support did not affect the entrepreneurial orientation and growth orientation of young entrepreneurs. As Manalova, et al. (2014) pointed out, the availability of physical capital from the family in the form of location, facility, or distribution network, might not be so important for the scope of initial activity undertaken by young new entrepreneurs. Similarly, the support of family in the form of human capital might be crucial for transgenerational family values transfer and to maintain entrepreneurial intentions, but not so important to the true realization of entrepreneurial initiatives (Laspita et al., 2012). It could be argued that in a society that viewed the entrepreneurial profession as unable to provide stability and prestige, the existence of family social support was considered to be not very important in the development of StartUp business. However, the family did not rule out the members of his family who tried to become young entrepreneurs by providing opportunities and emotional support.

CONCLUSION AND SUGGESTIONS

This study examined the influence and role of family social support in the form of financial capital, social capital, human capital, physical capital, and family cohesiveness on StartUp activities. Based on the results of the analysis, it was concluded that family social support in the form of financial capital support, social capital support, human capital support and physical capital support did not affect the StartUp activities in Malang. The only variable in this study that influenced the StartUp activities was family cohesiveness. It indicated that in starting a StartUp business, the respondents were strongly influenced by family support in the form of togetherness and family closeness. Emotional closeness was very meaningful to them, especially in the early days they started a business, as well as when they had started running the business. The absence of any influence of financial capital support, social capital support, human capital support and physical capital support indicated that respondents were expecting the assistance from external parties other than families, for example: the investors or the government. It was because of the characteristics of people who still thought that being a permanent employee was much more promising and it was risk-free, when compared to a StartUp business. Therefore, to encourage the growth of StartUp business, the government needs to issue policies which is friendly to StartUp business, such as licensing issues and support from investors in the form of capital or from banking related to easy access to capital.

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INFLUENCE OF TRANSFORMATIONAL LEADERSHIP, TRUST AND EMPLOYEE EMPOWERMENT ON CORPORATE PERFORMANCE THROUGH INNOVATION AND REPUTATION IN MEDIUM AND LARGE ENTERPRISES

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ABSTRACT

This study aims to develop an understanding of the influence of transformational leadership, trust and empowerment of employees on corporate performance through innovation and reputation in medium and large companies of West Lombok Regency, Indonesia. The sample used in this study is 153 company managers in West Lombok Regency analyzed using GSCA (Generalized Structured Component Analysis). The findings of this study contribute to the development of human resource management. Moreover, the practical contribution for the middle and big enterprise managers in West Lombok district is to improve corporate performance through transformational leadership style by taking into account the trust of employees and continuous employee's empowerment. Further research may include organizational and reward culture variables to expand and clarify this study.

KEY WORDS

Transformational leadership, trust, employee empowerment, innovation, reputation, corporate performance.

Corporate performance is the determination of certain measurement that can measure the success of a company in generating profits (Sucipto, 2003). The performance of the company in West Lombok Regency is considered inadequate in term of the low level of Human Resource education for the company, the inadequate use and mastery of technology, as well as the minimum guidance for the company from the government. Therefore, during this time the role of a leader in the company becomes very important.

Among the commonly used leadership styles is transformational leadership. The term transformational leadership was introduced by Bass (1985). Leaders are demanded to be competent in providing intellectual stimulation, in the form of giving stimulation and increasing creativity of their followers by developing the followers' mental state and innovative thinking (Bass and Avolio, 1994).

There has been considerable number of research that shows a positive relationship between transformational leadership and performance (Bass & Riggio, 2006; Judge and Piccolo, 2004; Jung and Avolio, 2000). However, there are limited number of researches that discusses the effect of transformational leadership in an organization as a whole. Previous researches were focused more on a team or individual as is part of the organization.

The two critical elements in applying transformational leadership are employee empowerment and employee confidence in their leaders. According to Sigler (2000), employee empowerment helps employees feel that that they give meaningful contribution, that they are competent, and that they have choices in what they do. Meanwhile, employees' trust in their leaders also greatly influences their attitude in their daily work. Employees will be more courageous in taking risks in their work if they have strong confidence in their leaders (Kort & Lewicka, 2012).

Another phenomenon that reveals the indirect influence of transformational leadership on performance is in mediation variables, including innovation and corporate reputation. According to Fontana (2011), innovation as a part of is possible because of the introduction of new ways or new combinations of old ways of transforming inputs into outputs (technologies) that results in large or drastic changes in the comparison of the perceived value from the customer of the benefit of a product (goods and / or services) and the prices

set by the manufacturer. Reputation has become an important factor that can distinguish the company. It is also difficult to imitate may become the source of the company's financial performance (Hall, 1993; Robert and Dowling, 2002).

This research will be conducted in companies in West Lombok Regency. Companies in West Lombok Regency are dominated by tourism companies; some companies provide supports for tourism, such as craft and culinary business. The population of this study is medium and large companies.

LITERATURE REVIEW

Transformational Leadership. In describing transformational leadership style, Bass and Avolio (2003) states that true transformational leaders are: 1) leaders who are aware of what is right, good, and pleasing, 2) leaders who always help to raise the needs of their followers in achieving what is desired and in achieving actualization, 3) leaders who always help in achieving higher levels of moral maturity, and 4) leaders who can motivate their followers to let go of their individual interests for the good of the group, organization, and society.

Sarros and Butchatsky (1996) argue that transformational leadership is a breakthrough leadership. It is called so because leaders with this character have the ability to bring enormous changes to individuals and organizations by: reinventing individual character in organization or the organization itself, initiating innovation creation process, and reviewing structure, process and values of the organization to be better and more relevant in an interesting and challenging way for all parties involved and try to realize the organizational goals that had previously been considered impossible to be implemented (Daryanto and Daryanto, 1999: 12-13).

Transformational leadership increases the awareness of its followers by attracting ideals and values such as justice, peace and equality (Sarros and Santora, 2001: 385). Meanwhile, Humphreys (2005: 1413) states that leaders who have the transformational leadership style with the characteristics expressed by Bass (1985) will lead to a constant change to improve the organization. With these positive changes, the employees are ready to accept the task given by the leader without the burden, happy and satisfied in doing their job, and improve the productivity and performance of the employees concerned.

Trust. According to Rousseau, et al. (1998), trust is a psychological area that concerns accepting what is based on expectations of good behavior from others. Ba and Pavlou (2002) define trust as an assessment of one's relationship with others who will perform certain transactions according to expectations in an environment full of uncertainty. Trust occurs when one is convinced of the reliability and integrity of a trusted person (Morgan & Hunt, 1994).

Moorman, et al. (1999) in Rusdin (2007) put forward the definition of trust as a statement between the two parties involved in a relationship. One party is considered to be acting as a controlling asset (having resources, knowledge) while the other parties sharing the resources in a bond will benefit them. One party's belief in the other will create an interactive behavior that will strengthen and help maintain that relationship. Such behavior will increase the length of the relationship by strengthening commitment. Ultimately, trust will be a valuable component to create a successful relationship. Such trust also reduces the risk of partnering and building long-term relationships and increase commitment in relationships.

Employee Empowerment. Based on research conducted by Cacciope (1998) at Burswood Resort Hotel Australia, empowered employees can solve organizational and customer problems quickly, instantly and professionally. Furthermore, empowerment is a good program because it causes changes in the organization, employee participation, and customer satisfaction. Nevertheless, management must also understand that achieving a certain level of empowerment is a long-term initiative and requires ongoing management commitment.

Employee empowerment gives employees more opportunities to develop creativity, flexibility and autonomy regarding their own work. This is believed to bring a beneficial effect in employee recognition (self-esteem). Employees will feel better and will think positively

about themselves, therefore better equipped to serve the guests (Cacioppe, 1998). One way to encourage empowerment in the workplace is to identify and eliminate factors that can lead to feelings of powerlessness and replace them with factors that promote leadership, self-efficacy and internal motivation (Conger & Kanungo, 1988).

Innovation. Freeman (2004) considers innovation as an enterprise effort through the use of technology and information to develop, manufacture, and market new products for the industry. In other words, innovation is a modification or discovery of ideas for continuous improvement as well as development to meet customer needs. Pervaiz K. Ahmed and Charles D (2010) argue that innovation can produce R & D (Research and Development), production, and with marketing approaches, which ultimately lead to the commercialization of these innovations. In other words, innovation is the process of realizing new ideas, different from the old ones, by means of production or by making them real. Innovation includes generation of evaluation, new concepts and implementation.

Amabile et al. (1996) defines innovations as related to creativity: Innovation comes from the word to innovate which means making changes or introducing something new. Innovation is sometimes interpreted as a discovery, but it has different meaning. Discovery means finding something that has existed before, but is not yet known. While invention is a completely new finding of something that never exists before. According to Regis Cabral (1998, 2003), innovation is a new element that is introduced in a network that can change, although only for a moment, its price, its doer, its elements and nodes in the network.

Reputation. Jatmiko (2011) mentioned several aspects in establishing the company's reputation, including financial ability, product and service quality, customer focus, human resources excellence and sensitivity, reliability, innovation, environmental responsibility, social responsibility, and enforcement of good corporate governance (GCG). Aside from Jatmiko (2011), Spector (in Rosidah, 2011) also explains six factors in measuring a company's reputation: dynamic, cooperative, wiseness, good character, success, and restrain. A company is said to be dynamic when it as the following characteristics: pioneer, attractive, active and goal-oriented, is said to be when it is: friendly, likable, make people happy, and has good relations with others, considered wise when it is: wise, intelligent, persuasive, and well-organized, considered to have good character when it has: good ethics, good reputation. and honor, said to be success when it features a good and confident financial performance, and finally categorized having restrain when it is strict, confidential and cautious.

A company's reputation represents a network of affective or emotional reactions from consumers, investors, employees, and the public, whether it is good, bad, strong or weak, to the company's name (Frombun, 1996; 37). Corporate identity is a reflection or an understanding of how the employees work, how the product is made, how the stakeholders are served, and so on.

Corporate Performance. Hurduzeu (2015) states that the overall performance of the company can be defined as a change or transformation of inputs into outputs to achieve certain goals. Depending on the context, performance can show the relationship between minimal and effective cost, between effective cost and and output (efficiency), and between the output and the objectives achieved (effectiveness). Prawirosentono (2008) offers factors that affect the performance of the organization, namely:

1. Effectiveness and Efficiency. An organization or group is said to be effective when group goals can be achieved according to its plans. While efficiency is related to the amount of sacrifices incurred in certain achievements.
2. Responsible. Responsibility is an integral part or partial effect of the ownership of such authority.
3. Discipline. Discipline is obedience to laws and regulations. Employee discipline is the employee's obedience in respecting the employment agreement with his company.
4. Initiative. One's initiative is related to thinking power, creativity in the form of ideas for something related to organizational goals. A good boss should give attention or positive response for every initiative.

The research follows up on the first assumption that transformational leadership, trust, employee empowerment, innovation and reputation can be implemented well and can not be separated. The study was based on other researches such as Alsalamy, Beheri and Abdullah (2014), Husain, Talib and Shah (2014), Yusoff, et al., (2015), Krot and Lewicka (2012), Roberts and Dowling (2002), Mano, Thoyib, Maskie and Djumahir (2014) and Men and Stacks (2012).

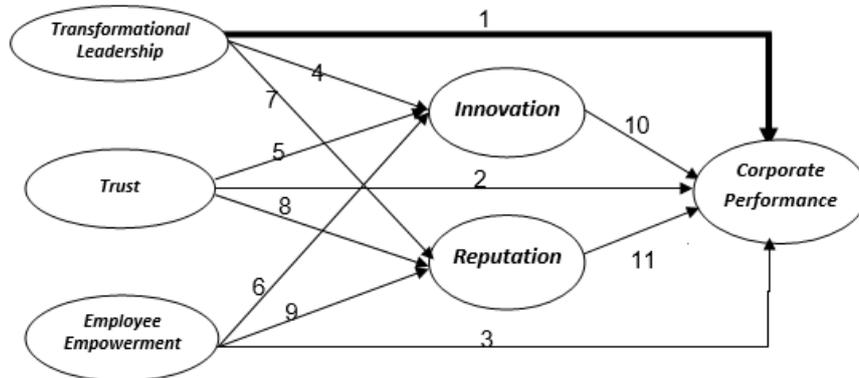


Figure 1 – Model Hypothesis

Hypotheses:

Relationship between Transformational Leadership and Corporate Performance

There are three reasons which stated that "transformational leadership activities that have an effect on corporate performance improvement, first, leaders care not only in organizational performance but also all things including company resources. Second, a strong recording of transformational leadership can create the desired image that encourages trust and empowerment of employees through innovation and reputation to positively evaluate company behavior. Third, transformational leadership initiatives become a key element of corporate identity. Thus, the hypothesis formulation is:

H1 = transformational leadership has a positive effect on corporate performance.

Relationship between the Trust and Corporate Performance

Trust in a company is defined as a belief that the provider of a product or service can act variously to meet the long-term needs of the service. That "to achieve improvements the company's performance should earn trust. Furthermore, trust is considered the key to building relationships within the company. Trust has two components: (1) performance or credibility of trust; and (2) good / sincere belief. From this context the hypotheses that can be formulated are:

H2 = trusts positive effect on corporate performance.

Relationship between Employee Empowerment and Corporate Performance

Batten (1995) adds that the empowerment of employees can help both public and private companies in achieving increased performance, because when employees feel empowered, then it can have an impact on the performance of employees so as to make the customer be more satisfied and loyal. The hypothesis formulated is:

H3 = Employee empowerment positive effect on corporate performance.

Relationship between Transformational Leadership and Innovation

One manifestation of the commitment of transformational leaders is to open the widest space to employees to innovate. One form of innovation, for example, is the use of information technology (information technology) in all activities within the company. Leaders believe that by utilizing information technology, the company's performance will increase. Thus, the hypothesis of this study is:

H4 = transformational leadership positive effect on innovation.

Relationship between the Trust and Innovation

To maintain internal trust, the company is willing to pay a large amount of money. Trust companies will result in many benefits, both financial and non-financial. One of the hard efforts it is competing to innovate, for example, by utilizing information technology. For example, e-commerce, e-banking, and others. Thus, the hypothesis of this study is:

H5 = trusts positive effect on the use of innovation.

Relationship between Employee Empowerment and Innovation

Empowered employees have better knowledge, attitudes, and behaviors for tasks within the organization than unemployed employees. Increased knowledge, attitudes, and behaviors are reflected in new techniques chosen in the performance of tasks to achieve efficiency and effectiveness. New techniques referred to, for example by choosing to use information technology to support the achievement of its best performance. Thus, the research hypothesis can be formulated:

H6 = Employee empowerment positive effect on innovation.

Relationship between Transformational Leadership and Reputation

Reputation is seen as extrinsic motivation for companies to carry out the activities of leadership transformational the. Thus, a reputation earned should be seen as the relevant outcomes of leadership transformational (Garberg and Fombrun, 2006) in Maden, et al., (2012). Studies on the relationship between leadership transformational the reputation of a company perspective that firms perceive leadership policy transformational can also be found in companies that perceive the reputation, then the hypothesis is:

H7 = Transformational leadership positive effect on the reputation.

Relationship between Trust and Reputation

Park, et al, (2014) describes trust as an intermediary variable that order in the practice of leadership transformational can positively impact on reputation. That to create a reputation requires a strong integrity of trust both from the aspect of legal and ethical responsibility. In addition, the reputation is determined by the Trust-rooted social good and responsibility towards helping behavior (philanthropic). From this perspective, the hypothesis formulation is:

H8 = Trusts positive effect on reputation.

Relationship between Employee Empowerment and Reputation

Empowered employees have better knowledge, attitudes, and behaviors for tasks within the organization than unemployed employees. Increased knowledge, attitudes, and behaviors are reflected in new techniques chosen in the performance of tasks to achieve efficiency and effectiveness. Companies with the best performance will get a good reputation as well. Thus, the hypothesis of this study is:

H9 = Employee empowerment take effect positive to reputation.

Relationship between Innovation and Corporate Performance

Innovation can be done with various things. Starting from creating new goods or services, the process of manufacturing and delivery of goods more efficiently, and others. The innovation process will run more smoothly if it is followed by the use of information technology. In addition to operational efficiency, the company also makes use of information technology for suppliers, sales channels and customer collaboration in order to meet customer needs most effectively (Gunasekaran & McGaughey, 2002). Thus, the research hypothesis can be formulated as follows.

H10 = Innovation positive effect on corporate performance.

Relationship between Reputation and Corporate Performance

Reputation will provide logical consequences for the company's long-term financial performance, customer loyalty, customer trust, and commitment. The more obvious as shown by Doorley and Garcia (2007) that the reputation of a number of images, together with the performance and behavior and communication. Of the elements that make it up, consisting of organizational ethics reputation, financial performance, the value of stock ownership, activity, corporate branding, marketing mix activities, public relations, and relations with stakeholders (Le Roux, 2003). Thus, the hypothesis can be formulated:

H11 = Reputation positive effect on corporate performance.

METHODS OF RESEARCH

Six variables were observed in this research: transformational leadership, trust, employee empowerment, innovation, reputation and corporate performance. A total of 21 items were observed an independent measurement of exogenous variables that transformational leadership consists of four items, the trust consists of four items, employee empowerment consists of six items, innovation consists of three items and reputation consists of four items. The endogenous variable corporate performance consists of 4 items. The measurement scale of the questionnaire is 5 points Likert Scale namely 1-strongly disagree, 2-disagree, 3-waver, 4 - agree, 5-strongly agree. Identification of variables by sex, marital status, age, last education and duration of work.

The target population in this study was the manager in medium and large corporation in the West Lombok Regency, a total of 248 companies. Samples were taken with a Slovin formula. The number of samples used were 153 managers of the company. The sampling technique used was proportional random sampling area with distribution area in 10 (ten) districts in West Lombok regency.

In this research, inferential statistics will be used to test the effect of transformational leadership sample data, trust, employee empowerment, innovation and reputation to corporate performance. Inferential statistics used are GSCA (Generalized Structured Component Analysis). GSCA by Ghozali (2008) is part of Component Based SEM and offers global least square optimization criteria, which consistently minimize to get model parameter estimates. GSCA is also equipped with the overall fit model size. GSCA can be used to confirm the theory, but it can also be used to explain whether or not the relationship exists between latent variables.

RESULTS OF STUDY

Profiles of respondents. Based on 147 questionnaires returned from the 153 questionnaires distributed, the individual profiles involved in the study showed the majority of male respondents (59.9%) and the rest are women (40.1%). Individual profiles based on marital status indicate that most of the respondents are married (78.9%) and unmarried (21.1%). Most individuals were aged 31-40 years (34.7%), 41-50 years (32.7%), 20-30 years (27.2%) and above 50 years (5.4%).

Individual profiles based on the last level of education, most of them are bachelor (51.0%), diploma (23.8%), higschool (23%) and graduate (9.5%). While based on the duration of working in the company, most have worked more than 5 years (46.9%), 3-5 years (35.4%) and 2 years (17.7%).

Construct validity, dimensionality and reliability. Based on the results of the model analysis it can be seen that all indicators that measure transformational leadership variables, trust, employee empowerment, innovation, reputation and company performance resulted in loading factor greater than 0.6. Thus, indicators that measure transformational leadership variables, trust, empowerment of employees, innovation, reputation and performance of the company can be declared valid or able to measure these variables.

Discriminant reliability results show that the value of Cronbach's alpha is greater than 0.6 and the discriminant reliability value is greater than or equal to 0.5 Therefore, based on the AVE value, all indicators that measure the variable are declared reliable. Furthermore, the value of Cronbach's alpha transformational leadership variables, trust, employee empowerment, innovation, reputation and company performance is greater than the value of cut off value of 0.60. It means that based on Cronbach's alpha, all indicators that measure these variables are declared reliable.

Model Analysis. The first stage of testing uses GCSA, or the Goodness of Fit Model. Goodness of fit model is intended to determine whether the constructed forms are suitable or not. There is several goodness of fit index in GSCA analysis that is Fit, AFit, GFI, and SRMR. The GFI criteria stated that if the value of GFI \geq the cut off value (equal to 0.90) then the model stated as good fit, while if the GFI value is within the range 0.8 to 0.9 then the model is

stated as marginal fit. While the FIT value shows how much exogene variable is able to explain its endogen variables.

From the result of goodness of fit mode, it is known that the index of global optimization or GFI is 0.968. This shows $GFI > 0.9$. Thus, the GSCA model as a whole against the intention of behaving concluded as good fit. Based on the goodness of fit structural model obtained Fit is 0.620. This means the contribution of transformational leadership variables, trust, employee empowerment, innovation, and overall reputation to the company's performance of 62.0%. Meanwhile the contribution of other variables that are not discussed in this study is 38.0%. Other things that may affect the company's performance include organizational culture and reward or punishment within the company.

Next is the testing of hypothesis by using the criteria of testing which stated that if the critical ratio (CR) \geq t-table ($t = 2.00$, $\alpha = 5\%$) then exogene variables influence to endogene variables. The test results of direct link are shown in Table 1 below:

Table 1 – Direct Effect Test Result

| Exogene | Endogen | Path Coefficient | SE | CR | Conclusion |
|---------|---------|------------------|-------|-------|------------|
| KT | I | 0.123 | 0.081 | 1.52 | Rejected |
| KT | R | 0.488 | 0.12 | 4.07* | Accepted |
| KT | KP | 0.427 | 0.154 | 2.78* | Accepted |
| K | I | 0.257 | 0.075 | 3.41* | Accepted |
| K | R | 0.338 | 0.089 | 3.81* | Accepted |
| K | KP | -0.248 | 0.122 | 2.03* | Accepted |
| PK | I | 0.572 | 0.076 | 7.48* | Accepted |
| PK | R | 0.017 | 0.125 | 0.14 | Rejected |
| PK | KP | -0.021 | 0.176 | 0.12 | Rejected |
| I | KP | 0.247 | 0.192 | 1.29 | Rejected |
| R | KP | 0.19 | 0.149 | 1.28 | Rejected |

Source: processed primary data (2017).

The influence of transformational leadership on innovation produces a critical ratio (CR) value of 1.52. This shows that the critical ratio value (CR) is unmarked or ($CR < t\text{-table} = 2.00$, ($\alpha = 5\%$)). Therefore, it can be interpreted that there is no significant effect of transformational leadership on innovation.

The influence of transformational leadership on reputation generates a critical ratio (CR) value of 4.07*. This indicates that the critical ratio value (CR) is marked or ($CR > t\text{-table} = 2.00$, ($\alpha = 5\%$)). Therefore, it can be interpreted that there is a significant effect of transformational leadership on reputation.

The influence of transformational leadership on corporate Performance resulted in a critical ratio (CR) of 2.78*. This indicates that the critical ratio value (CR) is marked or ($CR > t\text{-table} = 2.00$, ($\alpha = 5\%$)). Therefore, it can be interpreted that there is a significant influence of transformational leadership on corporate performance.

The effect of trust on innovation produces a critical ratio (CR) of 3.41*. This indicates that the critical ratio value (CR) is marked or ($CR > t\text{-table} = 2.00$, ($\alpha = 5\%$)). Therefore, it can be interpreted that there is a significant influence of trust on innovation.

The influence of trust on reputation generates a critical ratio (CR) of 3.8*. This indicates that the critical ratio value (CR) is maked or ($CR > t\text{-table} = 2.00$, ($\alpha = 5\%$)). Therefore, it can be interpreted that there is a significant influence of reputation on trust.

The influence of confidence on corporate Performance resulted in a critical ratio (CR) of 2.03*. This indicates that the critical ratio value (CR) is marked or ($CR > t\text{-table} = 2.00$, ($\alpha = 5\%$)). Therefore, it can be interpreted that there is a significant influence of trust on the performance of the company.

The influence of employee empowerment on innovation resulted in a critical ratio (CR) of 7.48*. This indicates that the critical ratio value (CR) is marked or ($CR > t\text{-table} = 2.00$, ($\alpha = 5\%$)). Therefore, it can be interpreted that there is a significant effect of employee empowerment to innovation.

The influence of employee empowerment on reputation produces a critical ratio (CR) value of 0.14. This shows that the critical ratio value (CR) is unmarked or (CR < t-table = 2.00, (alpha = 5%)). Therefore, it can be interpreted that there is no significant effect of employee empowerment to reputation.

The effect of employee empowerment on corporate Performance resulted in a critical ratio (CR) of 0.12. This shows that the critical ratio value (CR) is unmarked or (CR < t-table = 2.00, (alpha = 5%)). Therefore, it can be interpreted that there is no significant effect on employee empowerment of corporate Performance.

The effect of innovation on corporate performance resulted in a critical ratio (CR) of 1.29. This shows that the critical ratio value (CR) is unmarked or (CR < t-table = 2.00, (alpha = 5%)). Therefore, it can be interpreted that there is no significant effect of innovation on corporate performance.

The influence of reputation on corporate Performance resulted in a critical ratio (CR) of 1.28. This shows that the critical ratio value (CR) is unmarked or (CR < t-table = 2.00, (alpha = 5%)). Therefore, it can be interpreted that there is no significant influence of reputation on the performance of the company.

Based on the hypothesis test, the result of test relationships between variables of the research hypothesis after testing using the software GSCA is presented in Figure 2.

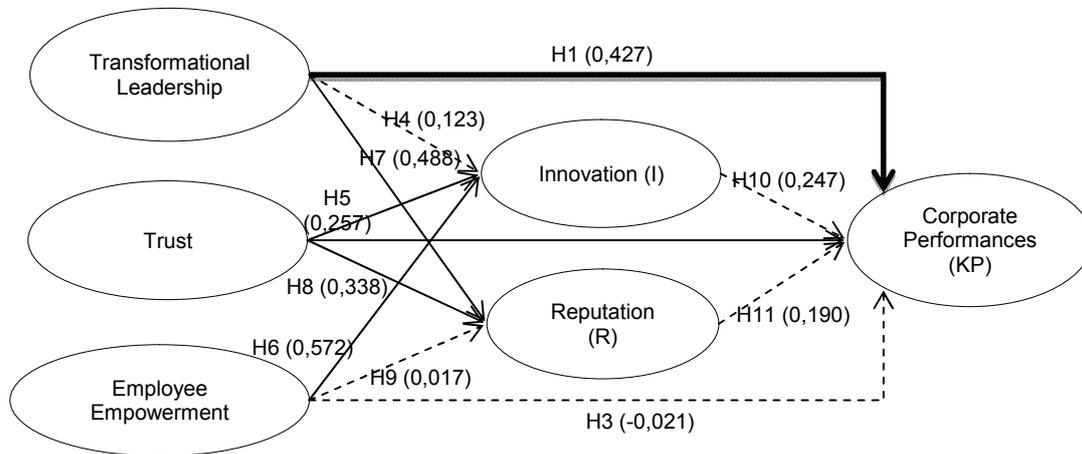


Figure 2 – Tested Hypothesis Model

Thin black line: Significant inter-variable relationship based on research contribution
Thick black line: New relationship between variables is significant
Dotted lines: The relationship between variables is not significant

Table 2 – Indirect Effect Hypothesis Test Results

| Exogene | Mediation | Endogen | Indirect Coefficient | SE | T Statistics |
|---------|-----------|---------|----------------------|-------|--------------|
| KT | I | KP | 0.030 | 0.031 | 0.982 |
| KT | R | KP | 0.093 | 0.076 | 1.217 |
| K | I | KP | 0.063 | 0.053 | 1.204 |
| K | R | KP | 0.064 | 0.053 | 1.209 |
| PK | I | KP | 0.141 | 0.111 | 1.268 |
| PK | R | KP | 0.003 | 0.024 | 0.135 |

Source: processed primary data (2017).

Then, the results of the analysis of mediation variables show no relationship involving the mediation variables. Test results for indirect relationships between variables can be summarized in Table 2. It shows that transformational leadership, trust and employee empowerment do not have an indirect relationship to corporate Performance through innovation or reputation.

DISCUSSION OF RESULTS

The results showed positive and significant relationship between transformational leadership on corporate performance. The findings of this study confirm and elaborate the opinion of Bass (1990), Robbins (1996), Hersey, et al. (1996), Barney (1991), Wang (2014). Also Wang's opinion, et al. (2011) and is an update of the previous studies because the current study perceive transformational leadership within an organization, not individually therefore it elaborates Wang's, et al. (2011).

The results showed that trust had a negative and significant effect on corporate Performance. The findings of this study confirm and elaborate the research of Brown, et al., (2011), Krot and Lewicka (2012), Tzafir (2009) that belief has a positive and significant impact on corporate Performance. Rao A.N (2015) also states that trust affects team performance.

The results of the study found that employee empowerment has a negative but not significant effect on the corporate Performance. The results of this study contradict with the research from Batten (1995) and Spritzer (2008) which states that when employees feel empowered in the workplace, it will produce positive things that lead to the improvement of performance, productivity and initiative.

Other researches results are transformational leadership has positive and insignificant effect on company innovation. The results of this study differ from Khan, et al. (2009) and Tipu, et al. (2012) research which states that many studies have examined the factors that can remind innovation within the organization, and they agree that leadership, especially the transformational leadership style, is one of the important factors.

Furthermore, the results of this study found that employee confidence has a significant effect on corporate innovation. The results of this study confirm and expand the opinion of Sankowska (2013), Krot and Lewicka (2012) stating that trust has been proven in improving the innovative nature of an organization. Feelings of confidence and trust in partners are increasing the intensity of relationships among colleagues, so it is easy to achieve the company innovation.

The results of this study revealed that employee empowerment has a positive and significant impact on company innovation. In addition, the result of this study supports and elaborates the opinions of Conger and Kanungo (1988) and Spreitzer (1995), and also supports the results of previous research from Alraja and Alomiam (2013), Noorshargh, et al., (2015), Husyein (2015).

Other research findings show that transformational leadership has positive and significant impact to the company's reputation. The results of this study confirm and elaborates the statement of Sarros and Butchatsky (1996), Robbins (1996), Garberg and Fombrun (2006) and Bitner and Zeithaml, et al. (2006).

Furthermore, this study revealed that employee confidence has a positive and significant impact on the company's reputation. The results of this study confirm and broaden the opinion of Morrow, et al. (2005), Usmara (2006), Park, et al. (2014) and Thorsten, Gwimmer, and Gremier (2002).

The results of the further research is that there is a positive influence between employee empowerment with reputation, but not significant. The results of this study differ from the studies conducted by Cacciope (1998) and Spreitzer (1995) but support research from Kele, et al. (2017) and Baird and Wang (2008).

The results of this study indicate that innovation has an effect but not significant to corporate Performance. This is supported by Cheng and Shiu (2014), Taylor (2003), D'Este, et al. (2012) and Blind, et al. (2016) research. The results of this study differ from Caglar's, et al. (2006) and Mclyor, et al. (2000) research.

Other results found that there was a non-significant influence between reputations on corporate Performance. The results of this study do not support previous research from Ali, et al. (2014), Doorley and Garcia (2007) and Stuebs and Sun (2010).

CONCLUSION

The results of research indicate that there is direct influence between variables and the absence of indirect relationship. The results of his research are: first, transformational leadership has a positive and significant impact on corporate performance. Second, trust has a negative and significant effect on corporate performance. Third, employee empowerment has negative and insignificant effect to corporate performance. Fourth, transformational leadership on innovation is positive and insignificant on corporate performance. Fifth, employee trust has a positive and significant impact on company innovation. Sixth, employee empowerment has a positive and significant impact on company innovation. Seventh, transformational leadership has a positive and significant effect to the company reputation. Eighth, employee's trust has a positive and significant impact on the company reputation. Ninth, employee empowerment has a positive and insignificant effect on company reputation. Tenth, innovation has a positive and insignificant effect on corporate Performance. Eleventh, reputation has a positive and insignificant effect on corporate Performance.

This research also provides practical contribution that can be applied in the field of human resources and contributing to the development of science. The results of this study can provide a tangible contribution to corporate managers in the context of the impact of the typical implementation of transformational leadership, trust, and employee empowerment on corporate performance through innovation and corporate reputation. It can directly or indirectly improve corporate Performance. Because employees will participate determine the willingness to participate in carrying out the company activities, it is necessary to build trust between employees and always do the employee empowerment.

This research is cross-sectional so it cannot see the dynamics of what is studied over time especially related to transformational leadership, trust, employee empowerment, innovation, and reputation variables in companies in West Lombok District.

The research findings that the contribution of transformational leadership, trust, empowerment of employees, innovation, and reputation variables as a whole to the company's performance is 62,00%, while the rest of 38,00% is the contribution of other variables that are not discussed in this research. Further research can add other variables such as organizational culture variables and rewards that can contribute to the performance of the company.

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**EFFECT OF COMPETENCE, LEADER-MEMBER EXCHANGE AND
TEAMWORK ON WORK DISCIPLINE, JOB STRESS AND THEIR IMPACT
ON EMPLOYEE PERFORMANCE OF CONSTRUCTION COMPANY
IN EAST JAVA, INDONESIA**

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ABSTRACT

Companies participating in an increasingly competitive world require strong employee support to build their long-term competitiveness. Therefore, performance should be a strategic value for the company. This study aims to evaluate the effect of competence, leader-member exchange and teamwork on work discipline, job stress and their impact on employee performance of Construction Company in East Java. The research method was quantitative approach with the sample of 230 respondents. Data were analyzed with Structural Equation Modeling using Amos 20.0 software. The results of this research show that competence has a significant influence on work discipline, but has no influence on job stress and performance. Leader-member exchange has a significant influence on work discipline, job stress, and employee performance. Teamwork has a significant influence on work discipline, but has no influence on job stress and employee performance. Work discipline and job stress have a significant influence on employee performance of Construction Company in East Java.

KEY WORDS

Competence, leader-member exchange, teamwork, job stress, employee, performance.

In an increasingly competitive era, companies must have an outstanding quality in order to win the competition. To achieve high performance, employees have an important role in running the organization. Performance is the work result that has a strong relationship with the strategic goals of the organization, consumer satisfaction, and economy contributor (Armstrong and Baron, 1998).

The organizational performance increases when the employees have the competence and discipline to carry out their responsibility. The organization is a social system with human resources (HR) as a determinant of effectiveness and efficiency (Rad and Yarmohammadian, 2006), which bring together many individuals, working teams, structures, systems, and rules agreed and implemented by all members of the organization (Von Bertalanffy, 1975 and Beer, 1980 *in* Senior and Swiles, 2004).

The numbers of personnel involved require resources management to contribute to the company's goals (Schermerhorn, 2008) by forming working teams with strong teamwork (Schein, 1988 *in* Senior and Swailes, 2004). Team performance is a key determinant of a company's success (Stashevsky and Koslowsky, 2006) and good working teams allow for new ideas and problem solutions (Chong, 2007).

The strength of the working team is internally determined by internal and external factors of employees. In the organizational context, every employee tries to change the organizational culture (Barkdoll, 2007) to better suit their personal values and competencies.

The strength of the working team cannot be separated from a leader. Wayne et al. (1997) state high team performance is a combination of individual performance, teamwork, and LMX. In addition to LMX, some researchers have shown that organizational support affects team performance (Miles and Mangold, 2002, Stashevsky and Koslowsky, 2006). Employees perceived organizational support will support back by giving the behavior the organization desires (Eisenberger et al., 1986).

One theory related to employee support for the organization is the leader-member exchange (LMX), in which LMX is the related relationship between the leaders and the members. The basic theory of LMX is the relationship between leaders and employees in the collective bargaining processes to determine the role of each party and to keep in touch with each other (Dansereau et al., 1975) in Kanika et al. (2008). This relationship will affect various important factors for individuals and organizations (employee commitment, organizational commitment, satisfaction, employee performance, etc.) (Gerstner & Day, 1998; Klein & Kim, 1998) in Kanika et al. (2008).

Besides giving direct benefits to the organization, employees perceived organizational support are proved to increase organizational commitment (Rhoades et al., 2001; Settoon et al., 1996) in Kanika et al. (2008). The attitude of leaders in the leader-member exchange and the employee values and beliefs are directly related to the perceived satisfaction (Lange, 2008). On the other hand, the high commitment of group members provides energy, high discipline, and motivation to work better (Chan, 2006). Employees with high discipline, which means having the good morale to carry out their work, will ultimately have higher performance (Wardana, 2008).

Based on the above phenomenon, the researchers conduct more in-depth research on the effect of competence, leader-member exchange, and teamwork on work discipline and job stress and their impact on employee performance.

Research Objectives. Based on the background and research problems, this study aims to examine and analyze: effect of competence on employee work discipline of Construction Company in East Java; effect of competence on employee job stress of Construction Company in East Java; effect of competence on employee performance of Construction Companies in East Java; effect of LMX on employee work discipline of Construction Company in East Java; effect of LMX on employee job stress of Construction Company in East Java; effect of LMX on employee performance of Construction Company in East Java; effect of teamwork on employee work discipline of Construction Companies in East Java; effect of teamwork on employee job stress of Construction Company in East Java; effect of teamwork on employee performance of Construction Companies in East Java; effect of work discipline on employee performance of Construction Companies in East Java; effect of job stress on employee performance of Construction Company in East Java.

LITERATURE REVIEW

Competence. Conceptually, competence is the basic characteristic of an individual that influences the way of thinking and acting, generalizes to all encountered situations, and exists for a quite long time (Spencer & Spencer, in Ruky, 2015).

Competence is formed based on motives, personal traits, self-concept, knowledge, and skills. The definition proposed by Spencer & Spencer (Ruky, 2015) describes that "Comparative Criteria" should be applied in using the concept of competence to show the effect of competence on work performance.

Based on the above description, it can be concluded that competence is the ability and willingness to perform a task with effective performance. Armstrong (2004) states competence is knowledge, skill, and quality of the individual. In addition, Watson Wyatt (Ruky, 2015: 106) defines competence as a combination of skills, knowledge, and behaviors that can be observed and applied critically for the success of the organization and work performance as well as employee personal contribution to the organization.

To contribute to the company, Spencer & Spencer (in Ruky, 2015: 106) also explain that competence, in relation to performance, can be classified into two types: Threshold Competencies, i.e. minimal and essential criteria; and Differentiating Competencies, i.e. criteria that can distinguish between people with superior performance and people with average performance.

Leader-Member Exchange (LMX). Morrow et al., (2005) states that Leader-member exchange (LMX) as the relationship between a supervisor and an employee to improve the work performance. Good treatment to employees is able to create voluntary feelings to

sacrifice for the company. In addition, positive special treatment is able to increase the contribution of employees to their companies.

Truckenbrodt (2000: 233) states that the leader-member exchange focuses on the assessment of the work-related relationship and interaction between supervisors and subordinates. Proximity level of the relationship between the leaders and subordinates is an indicator of the leader-member exchange in the organization.

In an organization, there may be a different relationship between the leader and the subordinates. Proximity level of the relationship is usually called as the leader-member exchange. According to Welliam (2003: 1), the theory of leader-member exchange put the concept of relationship as the basis of assessment. In an organizational environment, the leader-member exchange leads to the relationship between the leader and the employees as the subordinates.

According to Leonard (2002) in Bagus (2009), the understanding of the leader-member exchange is not only on the physical bond, in which the subordinate should continuously follow the instructions of the leader, but also on the deeper bond of interaction between employees and leader. This interaction bond involves an emotional bond between employees and leader.

According to Graen and Cashman (1975), employee group in Leader-member exchange can be identified from the special treatment given to the employee; adequate attention from the employee's leader; trust the leader gives to the employees and vice versa; willingness to accept additional responsibility from the company; employee willingness to accept unstructured tasks; and employee willingness to perform additional work voluntarily in the company.

Teamwork. Teamwork is the ability of team members to work together, communicate effectively, anticipate and meet each other needs, and stimulate confidence to generate coordinated collective action (Gregory, 2012).

Teamwork refers to interpersonal activities that facilitate the goals achievement (Colquitt, et al., 2011). There are three components in teamwork: i.e. togetherness, trust, and integrity (Kreitner and Kinicki, 2007).

Teamwork is a special form of the working group that must be organized and managed differently from other working groups (Dewi, 2007). The team consists of people coordinated to work together with strong interdependence to achieve a goal or accomplish a task. In general, Griffin (2004) divides the development of a team into four stages: Forming, Storming, Norming and Performing.

Thus, teamwork is a group in which the individual produces a performance level greater than the number of individual inputs (Robbins and Judge, 2008). West (2002) details 4 (four) strengths in building an effective team, namely:

1. Groups should have intrinsically interesting tasks to succeed;
2. Individuals should feel important to the group's outcome;
3. Individual contributions should be indispensable, unique, and tested;
4. There should be clear team goals with regular performance feedback.

Work Discipline. Discipline is the awareness and willingness of a person to comply with all principal organizational rules and social norms. Awareness is the attitude of a person who voluntarily obeys all rules and is aware of his/her duties and responsibilities. Willingness is an attitude, behavior, and actions of a person in accordance with the rules of the company whether written or not (Hasibuan, 2001).

Heidjrachman and Husnan (2002) state that discipline includes every individual and group ensuring compliance with orders and taking the initiative to take the necessary action in the absence of an order.

Hasibuan (2001) explains that there are indicators that affect the level of discipline of employees, i.e. (1) goals and abilities, (2) leaders examples, (3) remuneration (salary and welfare), (4) justice, (5) inherent supervision, (6) penalty sanctions, (7) assertiveness, and (8) human relations.

Work discipline is one of the operative functions of human resource management that reflects a person's sense of responsibility towards the tasks assigned. According to Mathis

(2000), this variable of work discipline can be measured using the following indicators: Attendance, Timeliness of work, and Regulatory compliance.

Job Stress. Job stress is a condition arises from the interaction between human and work. It is characterized by human changes that force them to deviate from their normal function. Job stress is a serious problem afflicting every employee in the workplace. Stress is a state of tension affecting the emotions, thinking processes, and conditions of a person (Handoko, 2008). Excessive stress threatens someone capability to complete the job and to achieve work performance.

Job stress can be seen from the emergence of complaints from employees about work problems. Employee complaint includes the number of workloads that must be completed because some employees are not able to utilize the existing working time, causing the work cannot be completed on time.

Luthans (in Yuwono et al., 2006) suggests that many managers report work-related stress, and the new environment worsens the atmosphere.

Employee Performance. Performance is not only about productivity because performance concerns the natural behavior of a person to freely act upon his/her wishes. This free-to-act behavior cannot be separated from the formal requirements of an employee's role to improve the effective functioning of an organization (Rich, 1997). Employee productivity (performance) is the comparison between the achieved outcomes and employee participation per unit of time, while employee participation is the efficient and effective use of resources.

Meanwhile, according to Sager (1984), employee productivity is influenced by education, skills, discipline, work attitude and ethics, motivation, health, income, work climate, etc.

From the description above, it can be concluded that good employee or individual performance causes better organizational performance and stronger trust for the organizations (Erran, 2003). Podsakoff et al. (1998) divide employee performance into: in role performance is the performance related to the job in regard to effectiveness, sales volume, managerial evaluation, and matters relating to the target to be achieved; extra role performance is the performance related to spontaneous and contextual pro-social behavior.

Concept Framework of the Research. Conceptually, this research aims to know the effect of competence (X1), LMX (X2) and Teamwork (X3). This research used discipline (Z1) and job stress (Z2) as the intervening variable, with Employee Performance (Y) as the dependent variable. Graphically, the conceptual framework of this research is as seen from Figure 1.

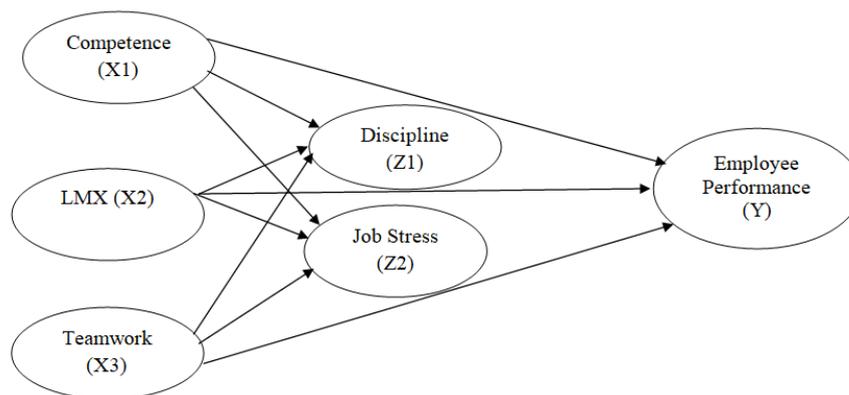


Figure 1 – Conceptual Framework

METHODS OF RESEARCH

Population and Sample of the Research. According to Sugiyono (2012), the population is a generalization area consisting of objects/subjects that have certain qualities and

characteristics set by the researchers to be studied and then drawn conclusions. Meanwhile, Nazir (2004) argues that population is concerned with the data, not the person or the object. The population of this research was 1,487 employees in 5 construction companies in East Java. Furthermore, the sample size of respondents for each company was determined proportionally, i.e. 230 respondents.

Table 1 – Operational Definition of Variables

| Variable | Definition | Indicator | Literature |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| Competence | the basic characteristic of an individual that influences the way of thinking and acting, generalizes to all encountered situations, and exists for a quite long time | <i>Knowledge, skill, and self-concept</i> | Spencer & Spencer, (2003), Ruky (2006). |
| Leader-member exchange (LMX) | Leader-member exchange focuses on the assessment of the work-related relationship and interaction between supervisors and subordinates. Level of the proximity to this relationship between the leaders and subordinates is an indicator of the leader-member exchange in the organization. | Adequate attention from the employee's leader, Trust the leader gives to the employees, and Willingness of employees to perform additional work | Morrow, et al., (2005); Bagus (2009), Truckenbrodt, 2000 |
| Teamwork | Teamwork is the ability of team members to work together, communicate effectively, anticipate and meet each other needs, and stimulate confidence to generate coordinated collective action | Participatory leadership Shared responsibilities Unified objectives Intensive communication Focus on the job Out-of-work demands | Leonard (2013); Gregory (2012); Kreitner and Kinicki (2007). |
| Work Discipline | Work discipline is one of the operative functions of human resource management that reflects a person's sense of responsibility towards the tasks assigned. | Attendance Timeliness of work Regulatory compliance | Mathis (2000), Hasibuan (2013), Mangkunegara (2005). |
| Job Stress | Job stress is a condition arises from the interaction between human and work. It is characterized by human changes that force them to deviate from their normal function. | Duty demands Role conflict Role ambiguity Career development Working relationship | Handoko (2009), Fred Luthans (2006), Hurrell et.al., 1988 (Ashar Sunyoto Munandar, 2008) |
| Employee Performance | Employee performance is a result of the quality and quantity of work that can be achieved by an employee in performing tasks in accordance with the responsibilities. | Quality of work Quantity of work The timeliness of work | Ruky (2015), Nawawi (2007). Timpe (2003) |

Measurement Scale. To measure the required data, the Likert Scale was used in this study. The Likert scale is used through 5 levels with the following scores:

- a. Strongly agree / highly capable category with score 5
- b. Agree / capable category with score 4
- c. Less agree / quite capable category with score 3
- d. Disagree / incapable category with score 2
- e. Strongly disagree / highly incapable category with score 1

Data Collection Technique. This study used primary data by conducting direct observation, questionnaire, and interview with the most efficient design in accordance with the tools, techniques, and characteristics of the respondents (Nazir, 2004: 108). The techniques used to collect primary data were preliminary surveys, interviews, and questionnaires.

Data Analysis Technique. Data analysis in this research used Structural Equation Modeling (SEM) analysis because this analysis method can give simultaneous analysis process related to multi-variant research model. Before the data were analyzed with SEM, the validity and reliability tests were conducted first.

RESULTS OF STUDY

Based on the results of data analysis with SEM model, the Standardized Regression Weight results are seen from Table 2.

Table 2 – Hypothesis testing using Regression Weight Test

| Causality relationship | | Direct Effect | Indirect Effect (Through Z ₁) | Indirect Effect (Through Z ₂) | Total Effect | Note | |
|-----------------------------------|-------------------------------------|---------------|-------------------------------------------|-------------------------------------------|--------------|--------|-----------------|
| Competence (X ₁) | → Work discipline (Z ₁) | 0.111 | 0.076 | - | - | 0.111 | Note |
| Competence (X ₁) | → Job Stress (Z ₂) | -0.270 | 0.000 | - | - | -0.270 | Not Significant |
| Competence (X ₁) | → Employee performance (Y) | 0.274 | 0.000 | 0.043 | 0.040 | 0.357 | Significant |
| LMX (X ₂) | → Work discipline (Z ₁) | 0.343 | 0.000 | - | - | 0.343 | Significant |
| LMX (X ₂) | → Job Stress (Z ₂) | -0.437 | 0.000 | - | - | -0.437 | Significant |
| LMX (X ₂) | → Employee performance (Y) | 0.111 | 0.097 | 0.133 | 0.065 | 0.309 | Significant |
| Teamwork (X ₃) | → Work discipline (Z ₁) | 0.293 | 0.000 | - | - | 0.293 | Not Significant |
| Teamwork (X ₃) | → Job Stress (Z ₂) | -0.372 | 0.000 | - | - | -0.372 | Significant |
| Teamwork (X ₃) | → Employee performance (Y) | 0.166 | 0.008 | 0.114 | 0.055 | 0.335 | Significant |
| Work discipline (Z ₁) | → Employee performance (Y) | 0.389 | 0.000 | - | - | 0.389 | Significant |
| Job Stress (Z ₂) | → Employee performance (Y) | -0.148 | 0.041 | - | - | -0.148 | Significant |

DISCUSSION OF RESULTS

Effect of Competence on Work Discipline. The results of hypothesis testing using SEM method prove that competence has no significant effect on the employee work discipline of Construction Company in East Java. The results of this study contrast with Sofu's (1999) findings in Andersen that competence refers to a person's ability to respond and behave adequately to changes and how they achieve good performance and results. Therefore, the better the competence is, the higher the work discipline will be. No significant influence of the competence on the work discipline is due to unfavorable habits. Competent employees tend to feel more confident about timely and good work result, causing less attention to the work discipline. Employees consider that as long as they have competence, their performance is still better even though their work discipline is low.

Effect of Competence on Job Stress. The results of hypothesis testing show that competence has a significant effect on employee job stress of Construction Company in East Java. This result indicates that highly competent employees tend to have low job stress.

The results of this study are consistent with Sofu's (1999) findings in Andersen that employees utilize competence to finish their work in accordance with the present rules or norms. Consequently, the job stress is low.

Effect of Competence on Employee Performance. The findings of this study show that competence has a significant effect on employee performance. These findings are in line with Sofu's (1999) findings in Andersen that competence the employees have causes them to be able to do their job properly, causing higher work satisfaction as well. In the end, it will trigger high performance.

Effect of LMX on Work Discipline. The influence of Leader-Member Exchange Contributions (LMX) on work discipline is 0.343 (positive). It indicates that the better Leader-Member Exchange Contributions (LMX) is, the higher the employee work discipline will be.

The results of this study confirm Bhal et al.'s (2009) findings that LMX affects various important factors for individuals and organizations (e.g. employee objective commitment, organizational commitment, discipline, employee performance, etc.). Employees perceived organizational support will actively pursue organizational goals.

Effect of LMX on Job Stress. The influence of Leader-Member Exchange Contributions (LMX) on job stress is -0.437 (negative). It indicates that the better Leader-Member Exchange Contributions (LMX) is, the lower the employee job stress will be.

These findings support Eisenberger et al.'s (1986) findings that employees perceived organizational support will support back by giving the behavior the organization desires. Besides giving direct benefits to the organization, employees perceived organizational support are proved to feel satisfied and to have less stress.

Effect of LMX on Employee Performance. The results of this study indicate that a good Leader-Member Exchange Contributions (LMX) is less capable to improve employee performance. The results of this study are in contrast to Eisenberger et al.'s (1986) findings that employees perceived organizational support will strive to increase their commitment to the organization by implementing all the obligated rules in the organizations.

The non-significant effect of LMX directly on employee performance is due to the low work discipline. A good relationship between the leaders and the employees without high work discipline will not have an optimal impact on improving employee performance.

Effect of Teamwork on Work Discipline. The results show that teamwork has a significant effect on employee work discipline of Construction Company in East Java. The high level of teamwork influence on work discipline shows that the better the teamwork is, the better the employee discipline will be. The results of this study confirm Kreitner and Kinicki's (2005) findings that there is a relationship between group unity and work discipline.

Effect of Teamwork on Job Stress. The teamwork influence on job stress is negative. It indicates that the better the teamwork is, the lower the employee stress will be.

The results of this study corroborate Robbins and Judge's (2008) findings that teamwork generates positive synergies through coordinated efforts, individual efforts generate high satisfaction, and high job satisfaction affects low job stress. Training and development are also very important in improving teamwork and are part of the human resource management phase.

Effect of Teamwork on Employee Performance. Teamwork influence on employee performance is positive. It shows that the better the teamwork is, the better the employee performance will be. The results of this study are in line with Robbins and Judge's (2008) findings that teamwork generates positive synergies through coordinated efforts and individual efforts produce a higher level of performance than the number of individual inputs. A higher level of performance means that employees working with coordinated teamwork will create work achievement through the quality and quantity of their work.

Effect of Work Discipline on Employee Performance. The results of this study indicate a significant influence of work discipline on employee performance. It shows that the better the work discipline is, the better the employee performance will be.

The results of this study are consistent with Hasibuan's (2000) findings that discipline is categorized as good when employees come to the office or company regularly and on time, dress well in the workplace, use materials and equipment carefully, produce satisfying quantity and quality of work, follow the rules determined by the company, and finish the work very well. Discipline is so important that it affects the results of employee work performance. Therefore, work discipline should be encouraged in every organization (1994).

Effect of Job Stress on Employee Performance. The effect of job stress on employee performance is negative. It shows that the higher the employee job stress is, the lower the employee performance will be.

The findings are in line with Mangkunegara's (2008) findings that the causes of job stress include overloaded work, pressing work time, low quality of work supervision, unhealthy work climate, inadequate work authority associated with responsibility, work conflicts, and value differences between employees and frustrated leaders in work.

The findings support Indriyani's (2009) study that job stress variable negatively affects employee performance. Job stress variables have a negative and significant effect on employee performance variable. The higher the job stress is, the lower the employee performance will be (Rozikin, 2006).

CONCLUSION

Based on the results of the analysis, hypothesis testing, and the research objectives, it can be concluded that:

- Competence has no significant effect on employee work discipline of Construction Company in East Java. High employee competence will not have a major impact on work discipline.
- Competence has a significant effect on employee job stress of Construction Company in East Java. High employee competence will reduce the level of job stress.
- Competence has a significant effect on employee performance of Construction Company in East Java. High employee competence will improve their performance.
- Leader-Member Exchange Contributions (LMX) has a significant effect on employee work discipline of Construction Company in East Java. High Leader-Member Exchange Contributions (LMX) will improve employee work discipline.
- Leader-Member Exchange Contributions (LMX) has a significant effect on employee job stress of Construction Company in East Java. High Leader-Member Exchange Contributions (LMX) will reduce employee job stress.
- Leader-Member Exchange Contributions (LMX) has no significant effect on employee performance of Construction Company in East Java. High Leader-Member Exchange Contributions (LMX) will not have a major impact on improving employee performance.
- Teamwork has a significant effect on employee work discipline of Construction Company in East Java. Strong teamwork will improve employee work discipline.
- Teamwork has a significant effect on employee job stress of Construction Company in East Java. Strong teamwork will reduce employee job stress.
- Teamwork has a significant effect on employee performance of Construction Company in East Java. Strong teamwork will improve employee performance.
- Work discipline has a significant effect on employee performance of Construction Company in East Java. High work discipline will improve employee performance.
- Job stress has a significant effect on employee performance of Construction Company in East Java. Low job stress will improve employee performance.

IMPLICATION AND LIMITATIONS

This research has implications for the development of economics, especially the importance of competence, Leader-Member Exchange Contributions (LMX), and teamwork in improving work discipline and reducing job stress. In addition, high work discipline and low job stress are able to improve employee performance as well.

Based on the results of the previous analysis, the limitation of this study is that this research was conducted on the employees of Construction Company in East Java with limited survey time. This study did not distinguish employees based on the length of work which may influence the assessment. Employees with a high working period may have different experience and competencies from employees with a low working period.

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WHETHER BOOK TAX DIFFERENCES AFFECT THE PRICE BOOK VALUE?

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ABSTRACT

The objective of the study was to describe book tax different influence towards price book value. The study was an explanatory study with quantitative approach. The setting of the study was manufacturing companies listed in Indonesian Stock Exchange. The independent variables were book tax different which measured using temporary differences and book tax different measured by permanent differences. The dependent variable was price book value. The data analysis involved descriptive statistics, classical assumption test, multiple linear regression and hypothesis-testing using Statistical Package for Social Science 21.0. The findings were: temporary differences did not have significant influence towards price book value, meaning that increasing temporary differences would result in insignificant increase in price book value and was not the main determining factor of price book value; permanent differences had significant influence towards price book value, which mean increasing permanent differences would increase price book value and was the main determining factor in describing level of company's price book value; there was significant, positive and simultaneous influence between temporary differences and permanent differences as the indicator of book tax different towards price book value in the companies.

KEY WORDS

Book tax differences, permanent differences, temporary differences, price book value.

Business entity operations are run by multiple parties that have different interests. Some parties have quite dominant role such as management, which based on the agency theories is referred to as agents and shareholders is called principal; each has an important role for company's operations. Managers are the ones who physically run company's operations and shareholders establish policies that management carry out. Managers and shareholders are separated by control functions and ownership functions. It is possible that such separation causes conflicts of interest between agents and principals which may affect management of company in terms of availability of information about company performance, recorded in its financial statements.

The concept of agency theory explains that the different interest between agent (management) and principal (owner) causes an assymerty information about company performance. Company performance can be described through financial statements prepared in each accounting period. The financial report is one of the media used by the principal (owner) to obtain information related to investment decisions. Information from financial statements generated by the company is also used as a basis for determining corporate income tax, in which is calculated based on fiscal net profit as the basis for calculation multiplied by applicable tax rate. The fiscal net profit is derived from reconciliation of the income statement of the company, in which the revenues and expenses of the company are adjusted to the applicable taxation rules into revenues and expenses which may be recognized and may be charged only as calculated. It may result in book tax differences between commercial profit and fiscal net profit due to differences in recognition and accounting principles. Book-tax differences represent differencnt amount of commercial profit based on financial reporting standart with fiscal net profit obtaine in tax regulations (Hanlon, 2005). Management of company prepares financial statements, in each accounting period with two different objectives, to fulfill the obligation to make financial reporting by International Financial Reporting Standart (IFRS) and to fulfill the tax obligations.

Management undertakes fiscal reconciliation and makes adjustments to the reporting that have been made in accordance with the IFRS, in accordance to tax law and regulations. Eventually, it allows distinction between commercial profit and fiscal profit; the difference arises because of the differences principle and the basis of recognition between commercial accounting and taxation accounting.

In the context of taxation accounting, Book Tax Differences can be divided into permanent differences and temporary differences. Temporary differences, according to Tang (2012), represent difference in the time of recognition of income or expenses between taxes and accounting resulting in higher accounting profits than tax profits or otherwise in an accounting period, in which the difference is temporary. On the other hand, permanent differences or fixed differences represent a form of accounting treatment whereby items are included in one measure of commercial profit, but not included in size of fiscal profit, due to the different definitions of those items from the two basic rules of reporting namely IFRS and tax regulations.

It is in line with the finding of Hanlon (2005)'s research results that book tax differences are separated into temporary differences and permanent differences providing information about the current profit quality. Hanlon's (2005) study investigating role of temporary differences in book tax differences indicates that firms with large and positive book tax differences have lower earnings persistence than ones with smaller book tax differences. This is also in line with some financial analysis literatures which state that increased profit reported by management caused by the selection of accounting methods in the accrual process will lead to a significant difference between accounting profit and fiscal profit.

Users of accounting information created by companies rely heavily on numbers presented in published financial statements. Investors will be more interested if company is able to maintain profits from year to year because there is tendency that such company remains stable. Investor's response is reflected in stock price that represents market response and is one indicator of company's value. Market response represented by company's stock price can be compared to book value per share in order to create a stable value in looking at the value of the company. It can be concluded that investors's interest towards company can be represented by stock price compared to book value of the company or its price book value (PBV).

PBV is used to measure stock price performance against its book value. The larger the PBV ratio is, the higher company value is according to investors compared to the funds invested by the company. In general, companies that run well is ones of which PBV ratio reaches above one that indicates that the stock market value is greater than the book value. This study will examine the effect of book tax different on the price book value of manufacturing companies listed in Indonesian Stock Exchange as the national capital market authority. Companies listed in the Indonesian Stock Exchange are called *emiten*. They have obligation to issue annual financial statements that can be used by investors to determine investment decisions. Companies listed in Indonesian Stock Exchange are divided into three types: main sectors, manufacturing, and services.

One type of company listed on the Indonesia Stock Exchange is manufacturing industry. Manufacturing companies listed in Indonesian Stock Exchange are divided into several sectors, namely basic and chemical industries, various industry and consumer goods industry. Based on the data compiled from the Ministry of Industry, in 2015 the manufacturing industry has high growth. The growth of the industry achieved 5.21%. The percentage is higher than the 2015 economic growth rate of only 4.73%. The national manufacturing industry has the largest contribution to the national economics compared to the other sectors.

The dominance of the manufacturing industry is also illustrated by the total industrial product exports between January and August 2015 of USD72.21 billion. The number contributed 70.44% to the total national exports of USD102.52 billion. The high growth of the manufacturing industry is dominated by the consumer goods industry sector, which consists of chemical, pharmaceutical and traditional medicine industries, tobacco processing industries and food industries (The Ministry of Industry, 2015). Based on the elaboration, the

researcher is interested to conduct research describing whether or not book-tax difference has influence towards price book value. The statements of the problems are 1) does temporary difference affect price book value?; 2) does permanent difference affect price book value?; and 3) do temporary differences and permanent differences, both are book-tax difference indicator, simultaneously influence price book value?. The goals of this research are to: 1) describe influence of temporary differences towards price book value, 2) describe influence of permanent difference towards price book value, and 3) describe simultaneous influence of temporary differences and permanent difference as book-tax difference indicator towards price book value.

LITERATURE REVIEW

Agency Theory. Agency theory is the theory that underlies company's business practices. The theory is combination between economic theory, decision theory, sociology, and organizational theory (Bamberg, 1989). The main principle of this theory states the existence of agency relationships in the company's business practices. The agency relationship, according to Jensen (1976), is a contract between management (agent) and shareholders (principal) to achieve the common goal that is increasing value of a company through increased shareholder wealth.

Separation of management function and ownership function is the beginning of the agency theory. The agency theory is emphasized to overcome two problems that can occur in agency relationship (Einsenhart as cited in Deviana, 2010), namely: (1) agency problem arising when desire or objective of the principal and agent is at the opposite and it is difficult for the principal to verify what the agent actually does; (2) risk-sharing issues that arise when the principal and agent have different attitudes toward risk. Different views that arise between the agent and principal cause asymmetry information.

The asymmetry information between management and owners provides opportunity for managers to act opportunistically, that is to gain personal gain; in terms of financial reporting, managers can earn earnings management to ultimately provide the best possible picture of the company's performance. The contrary is also done for tax purposes; the manager will minimize the amount of profit listed in the income statement so as not to be subject to greater taxes.

Book-tax differences. Book-tax differences are difference between amount of profit calculated based on accounting and profit calculated in accordance to tax regulations (Hanlon, 2005). Each year the company's management prepares financial statements with two different objectives, namely to meet IFRS requirement and tax regulations. This difference arises because of the principle difference between commercial accounting and taxation accounting.

The purpose of financial statements based on financial accounting standards is to provide information regarding financial position, performance, and changes in a financial position in the framework of decision making (Zain, 2007). Financial position information is primarily provided in the balance sheet while performance information is primarily provided in the income statement and the information on changes in financial position is presented in the statement of cash flows. The purpose of financial reporting under the tax law basically has similarity that is to determine the results of business operations with the measurement and recognition of income and expenses. According to Zain (2007) the provisions of tax laws and regulations are not merely a resource channeling instrument, but are often used for the purpose of influencing taxpayer behavior for investment, welfare and others that are sometimes used as justification for deviations from tax accounting principles.

The difference in principle or treatment between commercial accounting and taxation accounting leads to two types of income, accounting income and fiscal income. Accounting profit/ loss is net income for one period minus any tax expense. The fiscal profit/ loss or taxable income is profit or loss during one period which is calculated based on taxation regulations with due attention to fiscal correction. Fiscal correction is an advanced process of the commercial accounting cycle, making adjustments to income and expenses, where only

income classified as income tax objects and deductible expenses alone may be taken into account in the income statement. This taxable income is the basis for calculating the income tax payable in the current tax year.

The tax regulations in Indonesia require that the fiscal profit be calculated based on the accounting method on which accounting profit is based. The method of accounting used is the accrual method, so the company does not need to do double bookkeeping for the two purposes of reporting the profit. This is because at the end of each year the company is required to conduct fiscal reconstruction to determine the amount of fiscal profit by making adjustments to accounting profit based on tax regulations. Although between accounting income and taxable income are prepared on the accrual basis, the final result of the calculation is not the same (Hanlon, 2005).

Different profit is derived from different income and incurred fee by commercial accounting and taxation accounting as follow (Saputro, 2011):

a. Income which is recognized as accounting but not recognized as income according to taxation. This type of income is subject to final tax which has been regulated in the 2008 Decree number 36 Article 4 Paragraph (2) Income Tax. The types of taxable income are final, namely bank interest, income from prizes, and gain from sale of investment in stock exchange, in addition to dividend income from limited liability company (LLC) having shares in other LLCs of 25% or more being regulated in the Income Tax Decree Article 4 paragraph (3).

b. Income which is not recognized as profit by accounting but recognized as income according to taxation. Examples of these types of income are grants or donations related to business, employment and ownership.

c. Costs recognized as deductions in accounting income but are not recognized as deductions in taxable profit as stated in the Income Tax Decree Article 9 paragraph (1). Examples of these costs include costs that should not be deducted from gross income, such as providing benefits to employees related to recreational purposes and others.

In taxation accounting context, book tax differences is divided into permanent differences and temporary differences.

Temporary Differences refer to different time to recognize income or fee between taxation and accounting and therefore, accounting profit is higher than tax profit or vice-versa in one period (Tang, 2012). Temporary Differences can be seen based on discrepancy between number of recorded assets or liabilities and incurred tax. Temporary Differences occur due to different purpose between accounting and tax (Jackson, 2009).

In commercial accounting, revenues are recognized when earned and costs are recognized as incurred, or accrual basic. The Common Accepted Accounting Principle gives management freedom to choose its accounting procedures. Managers can choose among several different accounting methods. The options are for example, in selecting depreciation method and estimation of despreciation and amortization period. Managers are also free to use their judgment to determine which funding reserves may reduce profits, such as the determination of reserves for bad debts, compensation reserves, warranty reserves, and so on (Mills as cited in Wijayanti, 2006).

In taxation accounting, firms can only recognize received revenue and expenses incurred in the period concerned. Revenue is recorded when cash is received, unearned earnings can not be included in the fiscal profit, and expenses are recognized when the cash is issued, or cash basis. This is because taxation laws do not allow forecasts and cost savings that can reduce taxable income and tax laws do not allow for management to use commercial accounting estimates or methods in tax reporting (Mills as cited in Wijayanti, 2006).

Temporary Differences results in a shift in recognition of income or expenses from one accounting period to the following accounting period. Saputro (2011) states that some transactions that can cause different time, among others are:

- Income in calculation of tax after accounting profit namely gross profit of installment sales, gross profit of long-term contract, income from stock investment;

- Cost or tax calculation loss after accounting earnings: estimated warranty cost/product guarantee, estimated loss of contract from purchasing, inventory, loss of receivables and short-term investment;
- Earning prior to accounting profit: rent, interest and payment;
- Tax expense or loss before accounting profit: depreciation and construction of fixed assets cost (such as tax and interest).

Permanent Differences are items included in one measure of profit, but may not be included in other profit measures. This means that if an item is taken into accounting earnings, it is possible that the item is not included in the fiscal profit and vice versa (Hanlon, 2005). This may occur due to principle difference between commercial accounting and fiscal accounting. The items included in the fixed differences include a) bank interest; b) dividend payout, except dividends from a limited liability company (LLC) having shares in another LLC of 25% or more, dividend receipts excluding taxable non-taxable items as stipulated in the Income Tax Law; c) deletion of the sweepstakes prize; d) gains from investments in stock exchanges; e) income in the form of donations from parties having business, employment, ownership and tenure relationships; f) the cost of donations / assistance, in addition to the cost of donations for natural disasters categorized as national disasters; g) the provision of the enterprise to employees in kind and enjoyment shall not be expensed as a cost to calculate the taxable income, unless the grant of the enterprise in the form of money may be expensed as a cost to calculate the taxable income; h) income tax on royalties borne by the creditor; i) representative fees not included in the normative list; j) the cost of fines and tax interest; k) grants or inheritance; l) other non-deductible expenses as set forth in the tax laws.

Company Value Company value is performance of a company that is reflected by stock price developed from demand and supply in the capital market which reflects the community's assessment of the company's performance (Harmono, 2009). Company value is an investor's perception of company, which is often associated with stock prices (Brigham, 2012). High stock price results in high company value, and increases market confidence not only to the company's current performance but also on prospects of the company in the future.

Based on this understanding, company value is a representative value owned by the company as a form of public assessment of the company's performance. Company value reflected in the stock price shows level of market confidence in the future prospects of the company. Information published as an announcement will signal investors in making investment decisions. If the announcement contains a positive value, it is expected that the market will react at the time the announcement is received by the market. When the announcement of the information issued contains a good signal for investors, there will be an increase in the volume of stock trading resulting in high stock prices in the capital market as a reflection of the value of the company.

Company value can be measured using a ratio called the market value ratio (Brigham, 2012). The market value ratio is a set of ratios that relate the company's stock price to its earnings, cash flows and book value per share. The ratio provides an indication for management regarding the investor's view of the risks and prospects of the company in the future.

Brigham (2012) explains several approaches on market value ratio analysis:

- Price Earning Ratio (PER), is comparison between stock price in prime stock market and received income. PER is a function of changes in the ability of the expected profit in the future. The greater the PER, the more likely the company to grow and increase the value of the company.
- Price Book Value (PBV) is ratio showing whether stock price is above or below book value price of the shares. The higher this ratio is, the higher market trust towards prospect of the company is.
- Dividend Yield Ratio is ratio that shows the current rate of income earned from stock investments

- Dividend Payout Ratio (DPR) is ratio that shows the amount of profit paid to shareholders in the form of dividends.

Company value in this study will be measured by (PBV) to show the company's ability to create a relative value of capital. Price book value (PBV) is a ratio that indicates whether the stock price (market price) is traded above or below the book value of the shares (Brigham, 2012). The ratio of stock price to the book value of the company or PBV, shows the level of ability of the company creates a value relative to the amount of capital invested. Harmono (2009) explains that high PBV reflects the high stock price compared to the book value of the stock. The higher the stock price, the more successful the company creates value for shareholders. The success of the company creates that value of course gives hope to shareholders in the form of bigger profit.

Simply stated that price book value (PBV) is the market ratio used to measure the performance of the stock market price against the value of the book. The higher the PBV means the market believes in the prospect of the company. The researchers use PBV as a measure of the company value with the following reasons:

- Book value refers to relatively stable intuitive measure that can be compared to market price. Investor who does not find metode discounted cash flow reliable can use price book value as comparison.
- Book value provides consistent accounting standard for all companies. PBV can be contrasted between similar companies as guideline for under or overvaluation.
- Companies with negative earning that can be evaluated using price earning ratio (PER) may be evaluated using PBV.

METHODS OF RESEARCH

The study was explanatory study with quantitative approach. Explanatory research aims at explaining relationship between two or more phenomena or variables, both their direction and degree. The study examines the effect of book tax different as measured by temporary differences and permanent differences to price book value in manufacturing companies categorized as emittent in Indonesian Stock Exchange.

The independent variables were Temporary Differences (X_1) and Permanent Differences (X_2). The dependent variable was price book value (Y). Temporary Differences (X_1) refer to discrepancy between the numbers of assets or liability and the amount of tax a company should pay. Temporary Differences are obtained using the following formula:

$$TEMP = \left\{ -\frac{\text{deferred tax expense}}{t} \right\} * \frac{1-t}{\text{average assets}}$$

Weber as cited in Jacson (2009). Permanent Differences (X_2) refer to different treatments towards income and fee in which the income and fee are recognized by commercial accounting but not taxation accounting. Permanent Differences can be obtained using the following formula:

$$PERM = TAX^{DIFF} - TEMP$$

Weber as cited in Jacson (2009). Price Book Value (Y) is ratio between stock price and book value of the company that shows company's ability to create a value relative to the amount of capital invested. Price Book Value can be obtained using the following formula:

$$PBV = \frac{\text{Market Price of Each Stock}}{\text{Book Price of Each Stock}} * 100\%$$

The data analysis methods used in this research were descriptive statistics and inferential statistics. Descriptive statistics are used to describe generally obtained data. Parametric inferential statistics is used for hypothesis testing includes multiple linear

regression. The stages of analysis used in this study were descriptive statistics, classical assumption test, multiple linear regression, and hypothesis test using Statistical Package for Social Science (SPSS) version 21.0.

Figure 1 described three hypotheses used in the study.

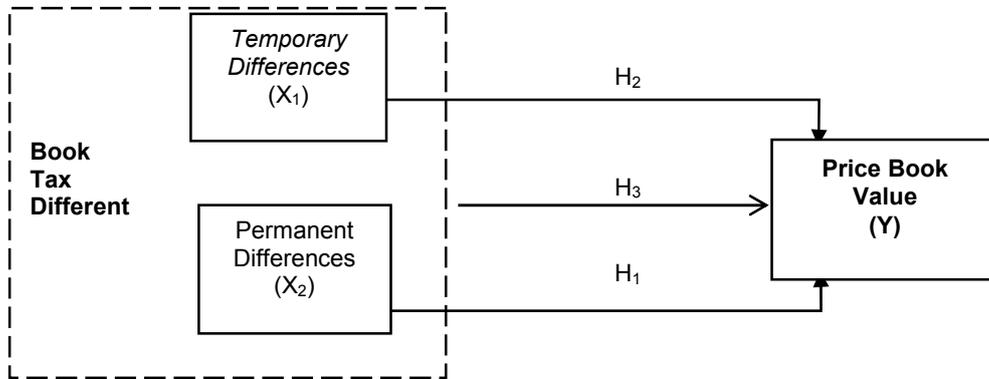


Figure 1 – Hypotheses

Hypothesis 1: temporary difference has influence towards price book value.

Hypothesis 2: permanent difference has influence towards price book value.

Hypothesis 3: temporary differences and permanent differences, as indicators of book tax different, simultaneously have influence towards price book value.

RESULTS AND DISCUSSION

The objects of the study were companies categorized as consumer goods industry listed in Indonesian Stock Exchange. These data are the financial statements of the research objects between 2012 and 2016.

Multiple Regression Testing Result: partial significance testing (t-test). The objective of partial significance testing using t-test is to identify partial influence of independent variable towards dependent variable. The level of significance is 5% or 0.05. Table 1 discussed the result of partial significance testing result of temporary differences and permanent differences influence towards price book value (PBV).

Table 1 – Partial Parameter Significance Test Result (t_{test}) Coefficients^a from Multiple Linear Regression Model

| Model | B | t_{value} | Significance |
|-------------|----------|-------------|--------------|
| (Constant) | 3.497327 | 5.563 | 0.002 |
| LnX_1 | -0.068 | -0.468 | 0.644 |
| LnX_2 | 0.754 | 3.622 | 0.001 |
| t_{table} | | 2.919986 | |

Source: Data Analysis, 2017.

The testing used basic assumption to determine influence and significant of independent variable that was to identify degree of freedom, evaluate whether or not level of significance was lower than 5% (<0.05) and compare between t-value and critical point based on the table. T-test result of the independent variables, temporary differences and permanent differences towards price book value (PBV) were elaborated as follow:

- The constant was 3.497327 which meant temporary differences and permanent differences may increase price book value (PBV) as many as the constant with assumption that values of all independent score were zero (0).
- Regression coefficient score (B) of temporary differences was -0.068 showing that one point decrease or increase in temporary differences would decrease/increase

price book value (PBV) score by 0.068% with assumption that all scores of independent variables did not change. Negative (-) regression coefficient score showed influence of temporary differences towards price book value (PBV) was at the opposite direction. Opposite direction was shown when an increase in temporary differences resulted in decrease in price book value (PBV). Temporary differences has lower t_{value} than t_{table} ($-0.468 < 2.919986$) and probability of the significance was 0.644 or higher than alpha (α) 5% ($0.644 > 0.05$). The conclusion was temporary differences did not have significant influence towards price book value (PBV).

- Regression coefficient score (B) of permanent differences was 0.754 showing that one point decrease or increase in permanent differences would decrease/increase price book value (PBV) score by 0.754% with assumption that all scores of independent variables did not change. Positive (+) regression coefficient score showed influence of permanent differences towards price book value (PBV) was at the same direction. It meant increasing permanent differences would increase price book value (PBV). Permanent differences had higher t_{value} than t_{table} ($3.622 > 2.919986$) and probability of the significance was 0.001 or lower than alpha (α) 5% ($0.001 < 0.05$). The conclusion was permanent differences had positive and significant influence towards price book value (PBV).

Multiple Regression Test: simultaneous significance testing result (F-test).

The objective of simultaneous significance test using F-test is to identify simultaneous significance of independent variables towards dependent variable. The level of significance was 5% or 0.05. Table 2 described the result of the simultaneous significance testing result (F-test) of temporary differences and permanent differences influence towards price book value (PBV).

Table 2 – Simultaneous Significant Test Result (F-test) ANOVA^a from Multiple Linear Regression Model and F_{table}

| Model | Sum of Squares | Df | Mean Square | F | Sig. |
|-------------------------------------------------------------|----------------|----|-------------|-----------|--------------------|
| Regression | 11.583 | 2 | 5.792 | 6.626 | 0.005 ^b |
| Residual | 21.850 | 25 | 0.874 | | |
| Total | 33.433 | 27 | | | |
| Dependent Variable: LnY | | | | | |
| Predictors: (Constant), LnX ₁ , LnX ₂ | | | | | |
| | N | K | df1 (k-1) | df2 (n-k) | F_{table} |
| | 75 | 3 | 2 | 72 | 3.123907 |

Source: Data Analysis, 2017.

Based on Table 2, F-test with ANOVA^a showed that F_{value} was 6.626, with F_{table} 3,123907 or F_{value} was higher than F_{table} ($6.626 > 3.123907$). In other words, the independent variables, temporary differences and permanent differences simultaneously had significant influence towards the dependent variable, price book value (PBV). Another evidence was the level of significance (probability) was 0.005 or lower than alpha 0.05 ($0.005 < 0.05$). In conclusion, using multiple linear regression, the second hypothesis (H_2) was accepted.

Coefficient Determination (R^2) Analysis Result. R^2 testing aims at identifying how much ability model has to explain dependent variable variance and how accurate regression model is. The lower R^2 was or the closer it is to 0, independent variable ability to explain dependent variable is strictly limited. Table 3 explained the result of R^2 test.

Table 3 – R^2 Test

| R | R Square | Adjusted R Square |
|--------------------|----------|-------------------|
| 0.589 ^a | 0.346 | 0.294 |

Source: Data Analysis, 2017.

Based on Table 3 Adjusted R^2 score was 0.294. It meant 29.4% variance of price book value may be explained by variance of temporary differences and permanent differences. On

the other hand, the remaining 70.6% was explained by other variables outside the study. Besides the coefficient determination, it also revealed correlational coefficient showing relationship between independent variable, book tax different, measured using temporary differences and permanent differences and price book value. R (correlational coefficient) score was 0.589. The score showed relationship between independent variable, book tax different, measured using temporary differences and permanent differences and price book value was categorized as average because the score was between 0.4 and 0.6.

Interpretation. The study described influence of book tax value measured using temporary differences and permanent differences towards price book value.

Table 4 – Summary of the Findings

| Hypothesis | t-test | | F-test | | Determination Coefficient | | Information |
|-------------------------------------------------------------------------------------|---------|----------|---------|----------|---------------------------|----------------|-------------|
| | t value | t table | F value | F table | R | R ² | |
| H ₁ : temporary differences ==> price book value | -0.468 | 2.919986 | | | | | Rejected |
| H ₂ : permanent differences ==> price book value | 3.622 | 2.919986 | | | | | Accepted |
| H ₃ : temporary differences & permanent differences ==> price book value | | | 6.626 | 3.123907 | 0.589 | 0.294 | Accepted |

Based on Table 4, H₁ was rejected which meant temporary differences did not have significance influence towards price book value. A change in temporary differences was not determining or inhibiting factor explaining change in price book value significantly. Tang and Firth (2012) elaborated that temporary differences are situations that occur due to differences in the time of income recognition or the cost of taxes and accounting, resulting in higher accounting profits than tax income or otherwise in a period. It can be concluded that the difference is only temporary and in some combined periods the difference will be the same in the final calculation, so this does not affect the value of the company as measured by the price book value significantly. The findings of this study are in line with Coprix, et.al (2011) which states that temporary differences do not have significant influence on the difference of investor opinion reflecting the value of the stock of the company. Another study related to this study is one conducted by Donohoe and McGill (2011) which states temporary differences do not have any influence towards market response. Although the two related studies do not use price book value as dependent variable, they are still related to using market responses and investor opinions as a reflection of company value.

The findings of this study indicate possibility of deferred tax burden in the consumer goods industry is zero or the company has the remainder of the previous year's tax payments recorded on the deferred tax benefit account. In addition, the average amount of assets used as a deferred tax burden on each company is not equal or congruent, thus not being able to contribute significantly to the formation of the value of temporary differences. Another indication that arises is the transaction resulting in deferred tax benefits.

Some of the transactions that may result in deferred tax benefits include cost or loss of tax calculation after accounting income which includes estimated cost of product warranty, estimated loss of contract purchase, and loss of receivables and short-term investments. This happens because companies in the consumer goods industry produce goods continuously, and thus, such transactions are temporary until there is some adjustment in corporate accounting.

H₂ was accepted that meant permanent differences have significant influence towards price book value of the companies categorized as consumer goods industry. It means a change in calculating permanent differences becomes one of determining or inhibiting factors explaining change in price book value. The findings show that increasing permanent differences will result in increasing price book value.

The findings of this study are not in accordance to Donohoe and McGill (2011)'s which states that companies with large permanent differences are significantly negative towards the

market response and manager behavior in anticipation of it. Although the study did not use price book value as a measure of corporate value, the market response can be used as a benchmark in determining corporate value. Different findings between Donohoe and McGill (2011)'s and this study happens due to the dependent variable. This study indicated that permanent differences had positive effect while Donohoe and McGill showed it had negative effect. The findings of this study are in line with Comprix, et.al (2011)'s which states that permanent differences have a positive effect on different investor's opinion that reflects stock price of the company.

Hanlon (2005) stated that permanent differences are items included in one profit measure, but not included in other profit measures. This means that if an item is taken into account in accounting earnings, it is possible that the item is not included in the size of the fiscal profit and vice versa (Hanlon, 2005). This may occur due to the principle difference between commercial accounting and fiscal accounting. This raises the difference between profit and loss post and taxable income on the company's financial statements as well as fiscal disbursement reports.

The relationship between permanent differences to price book value that went to the same direction indicated investors may prefer companies with higher permanent differences because it was more real in delivering the company's financial statements. This was possible because the component of the calculation of price book value was the share price divided by the book value per share, which meant the price book value may indicate the investor's response to the company. In addition, the magnitude of the value of permanent differences was also inseparable from the amount of book tax differences reduced by temporary differences with the forming components such as taxable income, net income, deferred tax expense and average assets. Based on these calculations, it is possible that companies with higher permanent differences are considered more real in reporting their financial statements.

H₃ was accepted which meant temporary differences and permanent differences, the indicators of book tax value, simultaneously had significant influence towards price book value of companies categorized as consumer goods industry. Simultaneous significance test result (F-test) with ANOVA^a showed F_{value} was 6.626, while F_{table} was 3.123907 or F_{value} was higher than F_{table} ($6.626 > 3.123907$). Another evidence was level of significance (probability) was 0.005 or lower than alpha 0.05 ($0.005 < 0.05$). It means a change in temporary differences and permanent differences scores simultaneously are one of determining factors to explain a change in price book value score. It is in line with Comprix, et.al (2011) that temporary differences and permanent differences have significant influence towards market response on stock demand.

Another study on the influence of book tax differences towards company value was Donohoe and McGill (2011). It stated that book tax differences variables had significant influence towards company value which was reflected in market response. Despite using different variables of company value, the findings of the study are the same as Comprix, et al (2011)'s as well as Donohoe and McGill (2011)'s that is simultaneously temporary differences and permanent differences have significant influence towards company value.

Substantive evidence in which temporary differences and permanent differences simultaneously had significant influence towards price book value shows the findings of the study are consistent to the previous studies and they are not the opposite of Lev and Nissim (2004) as cited in Comprix, et.al (2011). Liv and Nissim as cited in Comprix, et.al (2011) state that there is positive correlation between level of book tax differences and stock return. In this context, stock return describes investors' response in making predictions about the profit opportunities that will be obtained when deciding to invest in a company through capital market.

In this regard, investors may consider the correlation between fiscal profit information (taxable income) and company value before making a quality investment decision in the future. Discussion on fiscal profit will not be separated from the concept of book tax differences since in looking for fiscal profit one should first correct the components of temporary differences and permanent differences that are still contained in accounting profit.

CONCLUSION

Temporary differences do not have significant influence towards price book value. It means temporary differences are able to be supporting or inhibiting factor of price book value in really small percentage or not significant.

Permanent differences do not have significant influence towards price book value. It means permanent differences are able to become supporting factor in describing price book value level of company. Increasing permanent differences will increase price book value.

Temporary differences and permanent differences as main indicators of book tax different have positive, simultaneous and significant influence towards price book value of companies in consumer goods industry. It means temporary differences and permanent differences simultaneously are determining factors in describing price book value level of company. Increasing temporary differences and permanent differences simultaneously will result in increasing price book value.

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THE INFLUENCE OF ECONOMIC VALUE ADDED AND MARKET VALUE ADDED ON CORPORATE VALUE

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ABSTRACT

This research aims to determine the influence of economic value added and market value added on corporate value of manufacturing companies on sector consumer goods industry listed in Indonesia Stock Exchanges of 2011-2014. The sample of this research was 10 manufacturing companies on sector consumer goods industry listed in Indonesia Stock Exchanges. The method used was purposive sampling technique. This research used confirmatory factor analysis to form a combined proxy of corporate value comprised price earning ratio, price to book value and Tobin's Q.

KEY WORDS

Market, corporate value, technology, economy.

Technology has been growing fast so that the business competence among the companies is tighter, so is the smaller or bigger manufacturing companies. This encourages a manager to be more careful to make a decision. Because investor will truly pay attention the performance of company's financial where s/he invests. For that matter, company's financial performance is the basis of significant assessment for investor, creditor, management, banking or government to assess the stability of company's financial management. Company's performance assessment is generally assessed with a financial ratio which actually is a technique or a method to analyze financial statement. Good company's performance is reflected by its financial statement consisted of; revenue, gross profit, and net income that result in a positive value at every end of the administration period. This information can be a company's procedure driver and is used by management to formulate a policy in the effort of being in accordance with the continuously changing condition.

EVA is a modern company's financial performance assessment method popularized and has been granted patents by Stern Stewart management Service's Consultant Company of Stern Stewart & Co New York America. Company's performance assessment is truly needed by a company to maximize the invested funds by the external party to the company's internal party. EVA Approach is where EVA tries to measure the added value resulted by a company through subtracting the cost of capital rising because of investment that has been conducted. EVA sets a good benchmark that company has given a value added to the shareholder. For that matter, finance manager focusing on EVA will help to ensure that they operate in a consistent way to maximize shareholder value Brigham & Houston (2011, as cited in Zulfia, 2013). EVA's present value expected is MVA which is company's debt and capital market value from total capital used to support added value. In addition to EVA, MVA is also a measurement used to assess the success in maximizing shareholder's wealth by allocating the proper sources. MVA is also able to measure how much the company's wealth resulted by its investor or NVA which states the size of welfare achieved.

The objective of this research is to determine and analyze the influence of EVA on corporate value and to analyze the influence of MVA on corporate value.

LITERATURE REVIEW

Signalling Theory. Signalling theory was initially developed by Ross in 1979. This theory was the result of information asymmetrical in which a condition where the manager

has more information on operation and company's prospect in the future Tambunan (2008, as cited in Mursalim, 2009). *Signalling theory accentuated the importance of information issued by the company towards foreign company's investment decision. Information is an important element for investor and other business people since it actually presents past, present and future description, notes or illustration for company's continuity. Complete, relevant, accurate, and meet deadline information is truly needed by an investor in the capital market as an analysis tool to make an investment decision.*

One of the information types issued by a company which can be a good signal for foreign parties, especially investor is an annual report. Information disclosed in annual report can be an accounting information i.e. information related to the financial statement and non-accounting information, that is information which is not related to the financial statement. The annual report should contain relevant information and reveals information considered important to be known by those using the report both external and internal party. All investors need information to evaluate company's relative risk so that able to conduct portfolio diversification and investment combination with risk preference wanted. If a company wanted to get an investor, it had to conduct financial statement disclosure openly and in a transparent way.

Agency Theory. Barleg and Mean (1933, as cited in Muhammad Umar Mai, 2010) states about ownership separating and company's control so that share ownership distribution was important for a company. When a company is no longer managed by the principals but trusted to someone else, so the problem arises was the potential of conflict in the relationship between principals and agent which was commonly called agency problem.

Jensen (1986, as cited in Muhammad Umar Mai, 2010) explains that the conflict of manager interest and shareholder interest occurred with shareholders and manager assumption in which each of them wanted to get a higher return on investment projects but different interests on risk. This conflict can be found at a company with bigger free cash flow since the manager will make an investment for the excess cash obtained from internal fund sources to optimize its personal gains by not making cash dividend payment to the shareholder. Agency problem exists since there was information asymmetrical between shareholder and manager, which was when one of the parties has information that another party has not.

At a modern company whose ownership was spread and the management was separated, capital needs were not only supplied by principals or shareholder but were possible to use funds from other sources that are debtholders, in this matter agency problem can be wider. In an implicit way, there are three forms of agency relationship i.e. relationship between principals and management, a relationship between creditor and management, and a relationship between government and management. Hence the principals or the company owner can be the shareholder, creditor, or government. Agency theory identified the potential of conflict of interest between various concerned parties within the company. Those conflicts were caused by a goal difference of each party based on the position and its interest towards the company. In order to solve this problem, it needed a mechanism control and interest balance between manager and stakeholders.

Company's Financial Performance. According to the Minister of Finance Decree No. 740/KMK.00/1989 concerning the Improvement of Efficiency and Productivity of State-Owned Enterprise, "Financial Performance was an achievement resulted by a company in a particular period reflecting the level of company health. Company's Financial Performance was one of the bases of assessment on financial conditions that could be conducted based on the analysis of financial ratio." While according to Mursalim (2009) current performance measurement was a combination between finance and non-finance information which would also produce a financial report (e.g. profit and cost of share increases) and non-finance performance (for example customer satisfaction). Company's financial performance could be measured by analyzing and evaluating company's financial statements. Along with the current development and information needs regarding company's performance, it appears a value-based new measurement tool. Those measurement methods were among other EVA and MVA.

Economic Value Added (EVA). EVA was initially popularized by Stern Steward Management Service's consultant company from the United States in the 1980s. EVA was after-tax operating income subtracted by the total cost of capital. The total cost of capital was the rate of cost of equity multiplied by invested total capital Utama (as cited in Resmi, 2003). Positive EVA expressed the resulted rate of return was higher than the rate of capital return asked by an investor, which meant a company had maximized the corporate value. Conversely, negative EVA meant the corporate value decreases so that the rate of return gained was lower than the rate of return expected by the investor which meant the company did not succeed to create value for the capital owner (Resmi, 2003).

Market Value Added (MVA). The major target of almost all companies was maximizing shareholder's wealth. It would be maximized by minimizing the difference between market value of company's share and total equity capital which has been given by shareholder. The difference was called Market Added Value Brigham (as cited in Zaky & Ary, 2002). MVA was a difference between company's market value (including equity and money) and the whole capital invested in a company. Market value was corporate value. It meant the total market value of all capital claims towards a company by a capital market in particular date. MVA increased if only the capital invested a larger return than the cost of equity. The larger the MVA, the better the result. Negative MVA meant the value from the investment run by management was less than the capital given to a company by the capital market. It meant the wealth has been destroyed (Younf, 2001:27).

Corporate Value. Financial management actually aimed to maximize the corporate value. Corporate value could be seen from market value or company's book value from its equity. Because of the balance sheet, the equity demonstrates total company's capital. In addition, the capital market can be a measurement of corporate value. Company assessment did not only refer to par-value. It was caused by a company condition which experiences many changes every time significantly. Before getting a crisis, the corporate value and par-value are high, but after getting a crisis the company condition decreased while the par-value was as common. A company was said having good value if the company performance was also good. Corporate value can be reflected from the previous price. If the share value was high, the corporate value was possible to be good too.

METHODS OF RESEARCH

This research was undertaken at manufacturing companies on sector consumer goods industry listed in Indonesia Stock Exchanges. The duration of the research was 2 months that was from November 3rd until December 29th, 2015.

The population of this research was 39 manufacturing companies on sector consumer goods industry listed in Indonesia Stock Exchanges with the observation period of 2011 until 2014. The method used to get the sample was purposive sampling method; the sample was selected based on the sample characteristic relevance with determined selection criteria.

Table 1 – Sample Collection Criteria

| Criteria | Total Company | Total Observation Data |
|----------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------------|
| Total manufacturing companies on sector consumer goods industry listed in Indonesia Stock Exchanges 2011-2014 | 39 | - |
| Sample reduction criterion 1: Manufacturing companies on sector consumer goods industry having no listing age more than 5 years in ISE | - | - |
| Sample reduction criterion 2: A company which did not publish the 2011-2014 financial report completely and continuously | 23 | - |
| Sample reduction criterion 3: A company suffering from assets and equity loss | 3 | - |
| Total sample used in the research (13 x 4) | 13 | 52 |

Source: processed secondary data.

Type of data used to conduct this research was quantitative data, while the data source used was secondary data obtained from the financial report which can be accessed in electronic media like www.IDX.com and www.sahamoke.com. The data needed to conduct this research was financial statement summary data of a company which has gone public.

The researcher used a documentation method collected from secondary data search. Documentation was conducted by collecting documentary data sources like a summary of company's financial statements.

Data analysis techniques used was quantitative analysis. Quantitative analysis was a measurement used in a research which can be benefited with a particular total unit or stated by numbers. This analysis comprised data processing, data organizing and finding the result. The data testing provided to this research was using regression model and analysis tool used was factor analysis and multiple regression.

Dependent Variable. Dependent variable used to conduct this research was Corporate Value variable. Corporate Value used to conduct this research was:

- PER can be calculated using Formulation Tandellilin (2007, as cited in Kurniawan, 2009):

$$\text{PER} = \frac{\text{Price of per sheet share}}{\text{Gains of per sheet share}}$$

- Corporate Value's PBV was calculated by dividing current capital close price with recent quarter book value per share. It was also known as "price-equity ratio". Measurement scale used was formulated as follow (Wulandari, 2009):

$$\text{PBV} = \frac{\text{Price of per sheet stock market}}{\text{Value of per sheet stock market}}$$

- Tobin's Q, this ratio was a valuable concept since indicating an estimation of current financial market concerning return result value of every dollar of incremental investment. Tobin's Q was calculated by comparing the ratio of company's capital market value with company's equity book value. It can be calculated as follow:

$$Q = \frac{(EMV + D)}{(EBV + D)}$$

Where: Q = corporate value; EMV = equity market value; EBV = book value from total active; D = book value from total debt.

Independent Variable. EVA was after-tax operating income subtracted by the total cost of capital. The total cost of capital was the rate of cost of equity multiplied by invested total capital Utama (as cited in Resmi, 2003). If EVA was positive so that the resulted rate of return was higher than the rate of capital return asked by the investor, which meant that a company had maximized the corporate value. Proxies representing EVA value were NOPAT, Capital Charges, WACC, and Invested Capital.

NOPAT was profits gained from company operation after being subtracted by income tax. NOPAT could be formulated as follows: Amin Widjaya Tunggal (as cited in Rina Ulfiani, 2006).

$$\text{Net Operating Profit After Tax} + \text{rate}$$

Capital charges were EVA' essential aspect. Since Capital Charges was also cash flow needed to replace the investor for the business risk of the capital invested. Capital Charges could be formulated as follow: Amin Widjaya Tinggal (as cited in Rina Ulfiani, 2006).

$$\text{Capital Charges} = \text{WACC} \times \text{Invested Capital}$$

WACC was the cost of equity and cost of debt which each of them was multiplied with the percentage of equity and debt in a company model Lisa Linawati Utomo (as cited in Rina Ulfiani, 200:58). The way to calculate WACC was using formula as follow: Yeve Dewiyanti (as cited in Rina Ulfiani, 2006).

$$\text{WACC} = \{D \times r_d (1 - \text{Tax})\} + \{E \times r_e\}$$

Invested Capital was the whole total of company loan excludes short-term loans without rate. For example accounts payable, funds that still should be paid, tax payable added by equity. Invested Capital could be calculated using the formula below: Yeve (as cited in Rina Ulfiani, 2006).

$$\text{Invested Capital} = \text{Total Debt and Equity} - \text{short-term debt without interest}$$

Djawahir Kusnan (2007) states that market value added reflected shareholder expectation towards the company in creating wealth in the future. MVA was the difference between market value of equity and book value of equity. Market Value Added (MVA) could be calculated using such below formula by Agus Sartono (as cited in Yeve Dewiyanti in Rina Ulfiani, 2006):

$$\text{MVA} = (\text{Stock Price} - \text{Book Value}) \times \text{Outstanding Share}$$

Positive MVA showed that management had been able to increase shareholder's wealth while negative MVA caused the reduced capital value of shareholder, if MVA was 0, so the company was not able to increase wealth for the shareholder. Hence maximizing MVA value should be the company's principal goal to increase shareholder's wealth (Zaky, 2002).

RESULTS AND DISCUSSION

The object of this research was manufacturing companies on sector consumer goods industry listed in Indonesia Stock Exchanges of 2011-2014. According to the sampling selection as the determined criteria, so it was chosen 13 companies fulfilling the criteria of the sample.

Data Analysis Result. Confirmatory Factor Analysis was used to obtain factor score which was a general index value of single proxy creating Corporate Value variable. Each ratio value used as Corporate Value Proxy was calculated every year for a sample company and then used as data input in the analysis factor process.

Confirmatory Factor Analysis in Table 1 above indicated that not all correlation value was above 0.30, however; some of the correlation value was above 0.30 so that factor analysis can be continued. Correlation presented was bivariate Pearson correlation coefficient by 0.375, 0.187, and 0.235.

According to the Kaiser-Meyer-Olkin-Measure of sampling adequacy which was above 0.50, that is 0.583; the value was categorized as "more than enough" of suitable to conduct

factor analysis. In addition to KMO test, it was also conducted Anti Image Correlation (MSA) test to know if variables were partially proper to be analyzed and were not issued in the test. According to table 1 above, it was shown that three variables which would be analyzed indicating higher MSA value than 0.50, i.e. 0.570, 0.562 and 0.668.

Table 1 – Factor analysis result of Corporate Value Proxy

| A. Bivariate Person Correlation Coefficient | | | | |
|-------------------------------------------------|--------------------|-------|-------|--------|
| Single Proxy of Corporate Value | | | | |
| | PER | PER | PBV | Q |
| Correlation | PER | 1.000 | .375 | .187 |
| | PBV | .375 | 1.000 | .235 |
| | Q | .187 | .235 | 1.000 |
| B. KMO and Bartlett's Test | | | | |
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy | | | | .583 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | | | 10.830 |
| | Df | | | 3 |
| | Sig | | | .013 |
| C. Measure of sampling adequacy (MSA) | | | | |
| Anti-image Correlation | PER | .570a | | |
| | PBV | | .562a | |
| | Q | | | .668a |

Source: processed secondary data.

Table 2 – Multiple Regression Result

| EVA and MVA regression analysis on combined proxy of Corporate Value (PER, PBV and Tobin's Q) | | | | | | |
|-----------------------------------------------------------------------------------------------|------------|-----------------------------|------------|---------------------------|---------|-------|
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t-count | Sig. |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | -0,027 | 0,166 | | -0,164 | 0,87 |
| | EVA | 0,007 | 0 | -0,168 | -1,165 | 0,25 |
| | MVA | -0,015 | 0 | 0,13 | 0,901 | 0,372 |
| R | 0,188 | | | | | |
| R ² | 0-,004 | | | | | |
| F count | 0,897 | | | | | |
| Sig F | 0.415 N 52 | | | | | |
| T table | 1.677 | | | | | |
| a. Predictors: (Constant), EVA, MVA | | | | | | |
| b. Dependent Variable: NP | | | | | | |
| EVA and MVA regression Analysis on PER | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t-count | Sig. |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 2380.317 | 547,574 | | 4,347 | 0 |
| | EVA | -0,001 | 0,001 | -0,13 | -0,894 | 0,376 |
| | MVA | 0,012 | 0 | 0,044 | 0,302 | 0,764 |
| R | 0,128 | | | | | |
| R ² | -0,024 | | | | | |
| F count | 0.406 | | | | | |
| Sig F | 0.415 N 52 | | | | | |
| T table | 1,677 | | | | | |
| a. Predictors: (Constant), EVA, MVA | | | | | | |
| b. Dependent Variable: PER | | | | | | |
| EVA and MVA regression analysis on PBV | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t-count | Sig. |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 271,668 | 40,561 | | 6,698 | 0 |
| | EVA | -0,005 | 0 | -0,18 | -1,279 | 0,207 |
| | MVA | 0,012 | 0 | 0,256 | 1,817 | 0,075 |
| R | 0,278 | | | | | |
| R ² | 0,04 | | | | | |
| F count | 2,057 | | | | | |
| Sig F | 0.415 N 52 | | | | | |
| T table | 1,677 | | | | | |
| a. Predictors: (Constant), EVA, MVA | | | | | | |

| Table 2 - Continue | | | | | | |
|----------------------------------------------------|------------|-----------------------------|------------|---------------------------|---------|-------|
| b. Dependent Variable: PBV | | | | | | |
| EVA and MVA regression analysis on Tobin's Q Proxy | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | T count | Sig. |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 583.814 | 521.143 | | 1,12 | 0,268 |
| | EVA | 0 | 0,001 | -0,032 | -0,222 | 0,825 |
| | MVA | -0,012 | 0 | -0,056 | -0,383 | 0,704 |
| R | | 0,071 | | | | |
| R ² | | -0,036 | | | | |
| F count | | 0,123 | | | | |
| 0.415 N 52 | | 0,885 N 52 | | | | |
| T table | | 1,677 | | | | |
| a. Predictors: (Constant), EVA, MVA | | | | | | |
| b. Dependent Variable: Q | | | | | | |

Table 1 above concluded that those three corporate value's proxies met the qualification so that factor score value obtained was then used as the value representing Corporate Value's single proxy. This factor score was a general factor of Corporate Value in which factor score value obtained will be used more in regression analysis.

In order to achieve the research objective and to know if the independent variable had an influence on the dependent variable or not, so multiple regression analysis should be conducted. Multiple regression results can be seen in table 2.

According to the regression estimation result as shown in Table 2 above, so multiple regression equation was as follow:

- Multiple Regression analysis of corporate value's equation:

$$NP = -0.027 + 0.007EVA - 0.015MVA + e$$

The equation above was explained as follow:

Multiple regression equations indicated constant value by -0.27 and had a negative value. That value means if independent variable i.e. EVA and MVA were 0 (zero) or constant, so the corporate value was -0.027. β_1 value by 0.007 indicated that if EVA variable increases 1%, so the corporate value would increase by 0.007. β_2 value by -0.015 means if MVA decreases by 1%, the corporate value increases by 0.015.

- Multiple regression of PER proxy equation

$$PER = 2380.317 - 0.001EVA + 0.012MVA + e$$

Multiple regression equations indicated constant value by 2380.317 and had a positive value. That value means if independent variable i.e. EVA and MVA were 0 (zero) or constant, so PER value was 2380.317. β_1 value by -0.001 meant if EVA variable decreased by 1%, so PER increases by 0.001. β_2 value by 0.012 means if MVA variable increases by 1%, so PER will increase by 0.012.

- Multiple Regression analysis of PBV proxy equation:

$$PBV = 271.668 - 0.005EVA + 0.012MVA + e$$

The equation above was explained as follow:

Multiple regression equations indicated constant value by 271.668 and had a positive value. That value means if independent variable both EVA and MVA is 0 (zero) or constant, so PBV value is 271.668. β_1 value by -0.005 meant if EVA variable decreased by 1%, so PBV increased by 0.005. β_2 value by 0.012 means if MVA variable increases by 1%, so PBV increases by 0.012.

- Multiple Regression Analysis of proxy Q equation.

$$Q = 583.814 - 0.0EVA - 0.012MVA + e$$

Multiple regression equations showed constant value by 583.814 and had a positive influence. That value meant if independent variable both EVA and MVA were 0 (zero) or constant, so Q value was 583.814. β_1 value by -0.0 meant if EVA variable decreased by 1%, so Q value increased by -0.0. β_2 value by -0.012 meant if MVA variable decreased by 1%, so there would be an increase by 0.012.

DISCUSSION OF RESULTS

The Influence of Economic Value Added (EVA) on Corporate Value. Positive EVA value meant a company was able to produce effective and efficient financial performance which meant the rate of return resulted did not exceed the cost of equity for the rate of return expected by the investor. Positive EVA also indicated that company was able to create maximum corporate value for capital owner assisted with the increase of cost of equity which will be able to increase rate of return, hence according to the research result, EVA did not have a significant influence on corporate value (PER, PBV and Tobin's Q) which meant even though corporate's EVA value increased, it did not guarantee the corporate value would increase too, and vice versa.

This finding was not consistent with the research conducted by Melinda Septiyanti et al. (2013) revealing that Economic Value Added (EVA) had a significant influence on Corporate Value (Tobin's Q). This inconsistency showed that EVA analysis was not always used as a basis of decision making by an investor to buy or sell company's share and was also not used by management to make a decision of dividend share. EVA was not always used as a basis of performance since EVA calculation was not simple compared to performance size which was commonly used like financial ratio.

Signaling theory was an effect of financial report disclosure understood by the reader, especially actors of the stock exchange, information about what happened at manufacturing companies on sector consumer goods industry today showed investor characteristic which will assess it as bad signal, so the investor will not buy a share from the company.

The Influence of Market Value Added (MVA) on Corporate Value. Positive MVA showed that company's market value is higher than company's book value. This should make investor interested in making an investment in a company. The number of investors who were interested should be able to increase the number of demands of share so that being able to increase the share price. The increase of share price will bring a positive influence on the return reflected from the increase of corporate value. However, according to the analysis result, it was known that Market Value Added (MVA) did not have a significant influence on Corporate Value, while MVA had a not significant influence on PBV. This showed that even though company's MVA value increases, it does not guarantee the corporate value (PER, PBV and Tobin's Q) increases too, and vice versa. This research was not consistent with the study carried out by Melinda Septiyanti et al. (2003) finding that Market Value Added (MVA) had a significant influence on Corporate Value. This inconsistency has shown that MVA analysis was not always used as a basis of decision making by management, as Puji Astuti (2006) said that MVA was only used as a method of alternative financial performance reflected by MVA showing weak effect on financial performance.

This research result also told us that interest conflict between manager and shareholder has been attacking manufacturing companies on sector consumer goods industry, with assumptions that each shareholder and manager wanted to get a high return to the investment projects but different interest to the risk. Pawlina and Renneboog (2005, as cited in Muhammad Umar Mai, 2010) also state that this conflict attacked a company with bigger free cash flow since the manager will make an investment for excess cash obtained from internal funds source to maximize his/her personal gains by not making cash dividend payment to the shareholder. If this information is published and investor considered it as a decision to make an investment so that the investor will not since every investor aimed to get a dividend in the future.

CONCLUSION AND SUGGESTIONS

Economic Value Added (EVA) has a negative and not significant influence on corporate value (PER, PBV and Tobin's Q). Market Value Added (MVA) has no influence on Corporate Value, PER and Tobin's Q proxy, but MVA has a positive and not significant influence on PBV proxy. Negative EVA shows that a company less succeeds in creating value added to shareholder since EVA shows a residual profit after all cost of capital, while MVA shows the difference between market value equity and book value of equity.

It is better for further study to add other independent variables which can influence Corporate Value like Leverage, Systematic Risk and etc. which can influence Corporate Value. In addition, a further study can use much more companies as the sample, such as all manufacturing companies listed in Indonesia Stock Exchanges. Moreover, it also can use a selection of year of longer observation period since the longer the observation period the more the company grows.

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THE INFLUENCE OF HEDONIC SHOPPING MOTIVATION TO THE IMPULSE BUYING OF ONLINE-SHOPPING CONSUMER ON INSTAGRAM

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ABSTRACT

This research aims to know the influence of Adventure Shopping, Relaxation Shopping, Value Shopping, Social Shopping and Idea Shopping variables to the variable of Impulse Buying of Online-Shopping Consumer on Instagram. The type of the research is explanatory research. The result of F-test showed that $F_{\text{count}} (12.829) > F_{\text{table}} (2.669)$ which meant that research variables had influences to the Impulse Buying. With partial correlation value of 0.548, Idea Shopping variable became the dominant factor influencing Impulse Buying on the online-shopping purchase on Instagram.

KEY WORDS

Hedonic shopping, impulse buying, online shopping, Instagram.

Indonesia is an eastern-culture country that has many distinctive characteristics. In spite of that, Indonesia is still relatively easy to get the impact of globalization, both positive and negative impacts. Currently, western cultures are rapidly entering the eastern-culture countries, including Indonesia; it is often settled for a long time and eventually mixed into part of the eastern culture itself. It is due to the lack of individual filter of each Indonesian, so they accept the western cultures directly. Even so, the western culture, which is considered as modern culture, is considered also as in accordance with the ethics and norms of Indonesia.

One culture hereditary and unconsciously survives in Indonesia is consumptive culture. This culture is not considered to be owned by every individual of Indonesia, but at least the majority of civilian people who are settled in urban areas behave this way. In terms of the increased doers, teenagers and young adults (high school students and equivalents, college students, and men / women aged up to 40 years) are the fastest group of age in absorbing consumptive culture. This consumptive pattern occurs in nearly all levels of people, with varying levels. Mostly, teenagers are easily affected by the excessive consumption patterns (Loudon and Bitta, 1993).

In this type of consumption (hedonic shopping), consumers prefer interesting experience, fantasy, entertainment, and sensory stimulation from the use of the purchased products or services. According to Arnold and Reynold (in Utami, 2010: 49), hedonic shopping motivation consists of five main dimensions:

- Adventure Shopping: shopping activity is an adventure activity in which it can raise motivation and gain the consumer's own world by doing the shopping.
- Gratification/ relaxation shopping: shopping activity is one alternative to cope with stress, to treat an uncomfortable mood, as well as a means to deal with the problems and fatigue.
- Value Shopping: shopping activity is performed when the consumers look for shopping spots offering discounts.
- Social Shopping: mostly, consumers believe that shopping pleasure will be gained when they spend time together with family or friends, as a social activity. By doing shopping together with family or friends, they get a lot of information about the product to be purchased.
- Idea Shopping: consumers do the shopping to keep up with the latest trend of the fashion model and to see new products and innovations.

In this research, hedonic pattern becomes a topic related to online purchases. Hedonic shopping motivations are similar to utilitarian shopping pattern; the purchasing decisions

related to hedonistic spending, such as having fun experience, entertainment, and fantasy. The value of hedonic shopping refers to the sense of pleasure and fun that consumers receive from all purchasing experiences associated with shopping activities. In the hedonic shopping, the consumers are not planning the product to be purchased and mostly consumers make purchases due to the products that is considered as interesting, (Kasser and Kanner, 2004).

Based on the description that has been discussed above, the main research problem is how the influence of adventure shopping, relaxation shopping, value shopping, social shopping, and idea shopping to the impulse buying of online-shopping consumer on Instagram. The result of the research is expected to obtain the influence of adventure shopping, relaxation shopping, value shopping, social shopping, and idea shopping to the impulse buying of online-shopping consumer on Instagram.

LITERATURE REVIEW

Marketing. Marketing is identifying and meeting human and social needs. The appropriate and brief definition of marketing is to meet the needs in a profitable way, (Wilson et al., 2012). The purpose of marketing is to meet the target customers and satisfy the needs and desires. It is obvious because the satisfied consumers will come to buy or use goods or services that are offered by marketers, (Jain and Haley, 2009). Therefore, better understanding of consumer action pattern on goods or services will be vital. Sufficient information on consumer behavior will then be considered as important (Kotler and Keller, 2009: 5).

Marketing is an overall system of business activities that is aimed at planning, pricing, promoting and distributing goods and services that satisfy the needs of both existing and potential buyers. (William J. Stanton quoted by Basu and Hani, 2000: 4)

Description of Marketing Management. Marketing management is an activity of analyzing, planning, implementing and supervising all activities (programs) in order to obtain a favorable exchange rate to the target buyers in order to achieve organizational goals, (Kotler and Armstrong, 1999). Another opinion mentions that marketing management is planning, directing and supervising all marketing activities of the company or part of the company (Anderson et al., 2009). Marketing management is a process of improving the efficiency and effectiveness of marketing activities that are performed by individuals or companies; quoted from Alma (2004).

Hedonic Shopping Motivation. According Utami (2010), hedonic motivation is consumer's motivation for shopping because it has pleasure that makes the consumers pay no attention to the benefits of the purchased products.

- Social experience. Shopping centers have become a gathering place for various groups of people. Purchases that have been made will be an experience. Experience will create consumer's habit or attitude about retail. Large number of people coming from the suburban or certain areas, have no place to spend their free time so they come to the shopping center to spend their time to socialize with others. They socialize to get an appreciation from others. Sometimes, they pursue social status. Measurement that is used to get social status or social class is occupation, income and education level.
- Having the same interest. A store offers special goods to meet the needs of the community in order to generate an interest of communication. It happens because they are always adaptive to the advertising or promotional activities that are performed by supermarkets or hypermarkets. They are interested in the activities performed by modern retailers. The stimuli of promotion, price, and other marketing strategies are intended to influence consumers. Moreover, retail information is easy to obtain with no any sacrifices. Retail information, including price, the completeness of the product and the closest store to the consumer, is advertised in print and electronic media. Retail management periodically publishes shopping magazines that are distributed to consumers as well as for promotional purposes.

- Individual attractiveness. Shopping center is built for a place to gather. For example, teenagers use the shopping center as a place to hang out or do browsing activities, take for a walk or see a new product. Shopping centers can be used as a place to hang out and seek information.
- Instant status. Each salesperson knows that some people feel or enjoy the services provided even if they do not make a purchase. In addition, shopping activities make a person participate in groups such as family, club or organization. The position of a person in a group is determined by the status. People choose products that can raise their status in the community.
- Seeking sensation. Some people feel proud if they know more about the place of trade. It is an impulse or sensation for them.

Impulse Buying. Impulsive buying is defined as unplanned, sudden, and spontaneous gestures to purchase something, which is less cautious to the evaluation of the product or the consequences of subsequent purchases, (Paramitha et al., 2014). Impulse buying is classified into four groups: 1) Pure Impulse Buying occurs due to the emotional outflow of the consumer so that purchase of products is outside the purchase habits, 2) Reminder Impulse Buying occurs when the consumer suddenly remember to purchase certain product, 3) Suggestion Impulse Buying occurs when the consumer looks at the product, looks at the usage instruction, and then decides to make a purchase, 4) Planned Impulse Buying is a purchase that occurs when consumers buy products based on special prices and certain products, (Srivastava and Kumar, 2013)

Impulse Buying Measurements. According to Rook and Fisher, (1995) about Impulse Buying Measurements, it is the tendency of consumers to buy spontaneously, unconsciously, abruptly and automatically. Impulse buying focuses on the appeal of sentiment and passion to buy. It deals with one's emotions. The attraction is related to the goods that a particular store has to offer, so they are interested and have a passion to buy it.

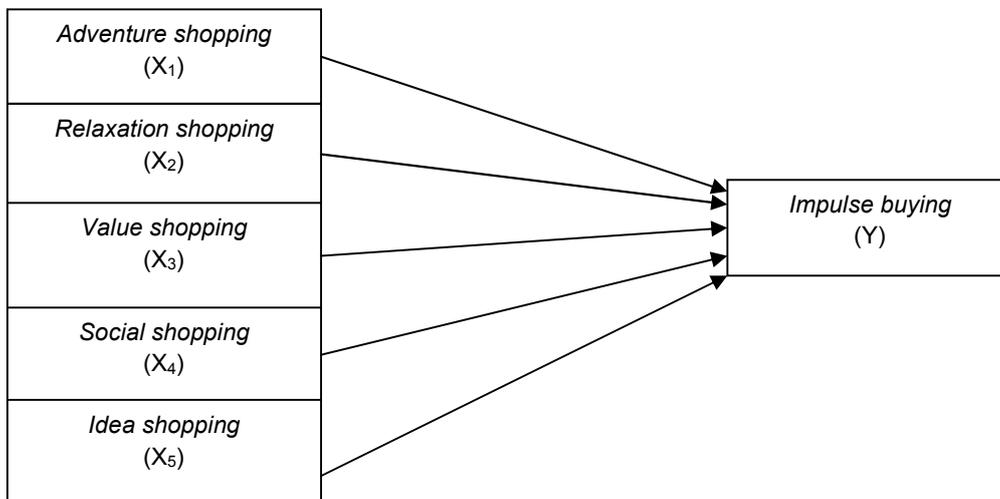


Figure 1 – Conceptual Research Framework

Research Hypothesis:

- H1: Adventure shopping has positive and significant impact to impulse buying.
- H2: Relaxation shopping has positive and significant impact to impulse buying.
- H3: Value shopping has positive and significant impact to impulse buying.
- H4: Social shopping has positive and significant impact to impulse buying.
- H5: Idea shopping has positive and significant impact to impulse buying.

METHODS OF RESEARCH

The type of the research is explanatory research. Explanatory research is a research aiming to test a theory or hypothesis to strengthen or reject a theory or hypothesis of the

previous research results. Measurement, conducted by the authors in the process of data analyzing was Likert scale. Likert scale is used to measure attitudes, opinions and perceptions of a person or group of people about social phenomena, Ginting and Situmorang, (2008: 121). In this research, the respondent chose one of the answers consisting particular score. Then respondent's score was summed up and it was the total score. Total score was interpreted as respondent's position in Likert scale. The population in this research is unknown but the researcher took the entire population who had made at least two purchases of on various types of online products at online shopping on Instagram. Data sampling technique used in this research is random sampling technique. This research used as many as 109 respondents.

Data Collection Method. In obtaining the data, the data collection process used the following methods:

Library Research. The data collection method is conducted by reading books, articles and magazines that deal directly with the problem under research. Thesis is used as reference from the previous research. In addition, it needs to browse the data through the internet to find articles and journals or data that may help the results of research.

Field Research. The data collection method is conducted by direct way to the object of research to get primary data through by distributing the questionnaires to consumers containing problem under research. Respondents are to respond to the question of how much the influence of a hedonic shopping motivation to the impulse buying of online-shopping consumers on Instagram.

RESULTS AND DISCUSSION

Validity Test Results. By comparing the value of Pearson correlation and r_{table} using 95% confidence level, $\alpha = 30-2 = 28$ (the number of respondents validity test minus two), the results for r_{table} was 0.361. Table 1 shows the results of validity test.

Table 1 – Validity Test Results

| Variable | Item | r-count | r-table | Result |
|----------------|------------------|---------|---------|----------------|
| X ₁ | X _{1.1} | 0.739 | 0.361 | Valid |
| | X _{1.2} | 0.549 | | Valid |
| X ₂ | X _{2.1} | 0.622 | 0.361 | Valid |
| | X _{2.2} | 0.618 | | Valid |
| X ₃ | X _{3.3} | 0.1000 | 0.361 | Valid Valid |
| X ₄ | X _{4.1} | 0.510 | 0.361 | Valid |
| | X _{4.1} | 0.842 | | Valid |
| X ₅ | X _{5.1} | 0.091 | 0.361 | Valid |
| | X _{5.2} | 0.811 | | Valid |
| | X _{5.3} | 0.489 | | Valid |
| Y | Y _{.1} | 0.291 | 0.361 | Valid |
| | Y _{.2} | 0.964 | | Valid |
| | Y _{.3} | 0.447 | | Valid |
| | Y _{.4} | 0.122 | | Valid |

The result of validity test was obtained by using SPSS program by comparing Pearson Correlation value (product moment correlation) with r_{table} value using 95% confidence level, $\alpha = 5\%$, $df1 = 6-1 = 5$ (number of independent and dependent variable minus 1) and $df2 = nk-1$ or $109-5-1 = 103$ (n is the number of samples and k is the number of independent variables); the result for r_{table} was 0.361. Determining an item is considered as valid if the correlation of each factor is positive and bigger than 0.361 then the factor is a strong construct with $sig < \alpha$ (0.05) and vice versa. If the correlation of each factor is negative or less than 0.361 with $Sig > \alpha$ (0.05) then the question is considered as invalid.

Reliability Test Results. Measurement of instrument reliability was conducted using statistical test of Cronbach's alpha (α). It is reliable if it gives the Croncbach's alpha value (α)

> 0.60. If the correlation coefficient is greater than the crisis value (0.60) then the measurement is reliable and vice versa. Table 2 shows reliability test results.

Table 2 – Reliability Test Results

| Variable | Cronbach's Alpha Value | Crisis Value |
|-------------------|------------------------|--------------|
| (X ₁) | 0.763 | 0.60 |
| (X ₂) | 0.726 | 0.60 |
| (X ₃) | 0.1000 | 0.60 |
| (X ₄) | 0.801 | 0.60 |
| (X ₅) | 0.600 | 0.60 |
| (Y) | 0.661 | 0.60 |

Criteria for an instrument to be reliable by using this technique, it is if Cronbach alpha > 0.6 but when Cronbach alpha < 0.6, it shows the absence of consistency. The research results of the reliability of independent and dependent variables in this research showed that Cronbach alpha is bigger than 0.6 so it can be concluded that all independent variables in this research are reliable.

Multiple Linear Regression Analysis. Based on the results of multiple linear regression calculations by using SPSS 17.0, the data were obtained, as can be seen in Table 3.

Table 3 – Multiple Regression Analysis Results

| Independent Variable | Regression Coefficient | t-count | Sig | R |
|----------------------|------------------------|-----------------|-------|-------|
| Constanta | -22.093 | 3.335 | 0,001 | - |
| Adventure shopping | 0.1579 | 3.149 | 0.002 | 0.296 |
| Relaxation shopping | 0.1466 | 3.890 | 0.005 | 0.274 |
| Value shopping | 0.1729 | 2.142 | 0.035 | 0.206 |
| Social shopping | 0.254 | 2.548 | 0.020 | 0.053 |
| Idea shopping | 0.1659 | 6.641 | 0.000 | 0.548 |
| Multiple R = 0.619 | F-count = 12.829 | t-table = 1.984 | | |

R Square = 0,384 Significance Level = 0,000
D-Watson = 679

From the table 4.3 above, by the value of $\alpha = 5\%$ (0.05), multiple linear regression equation is obtained as follows:

$$Y = -22.093 + 0.1.579X_1 + 0.1.466X_2 + 0.1.729X_3 + 0.254 X_4 + 0.1.659X_5$$

Multicollinearity Test Results. Based on the analysis results that have been processed by using SPSS 17.0 program, multicollinearity test with the test value of tolerance and VIF is as can be seen in Table 4.

Table 4 – Tolerance and VIF

| Independent Variable | Tolerance | VIF | Crisis Value |
|---------------------------------------|-----------|-------|--------------|
| Adventure shopping (X ₁) | 981 | 1.019 | 5 |
| Relaxation shopping (X ₂) | 966 | 1.035 | 5 |
| Value shopping (X ₃) | 951 | 1.052 | 5 |
| Social shopping (X ₄) | 997 | 1.003 | 5 |
| Idea shopping (X ₅) | 995 | 1.005 | 5 |

Based on the table 4 above, it shows that the values of tolerance and VIF of each variable are less than five. It can be concluded that in this research multicollinearity does not occur to independent variable in regression model.

Heteroscedasticity Test Results. In this research heteroscedasticity test was conducted by Park testing. It was conducted by looking at beta coefficients on each variable: Adventure Shopping (X₁) of 0.1579, Relaxation Shopping (X₂) of 0.1466, Value Shopping (X₃) of 0.1729, Social Shopping (X₄) of 0.254 and Idea Shopping (X₅) of 0.659. The value of each variable is more than significant level of 0.05 or 5% which means there is no heteroscedasticity between variables in the regression model.

Table 5 – Heteroscedasticity Test with Beta Coefficients

| Independent Variable | β Coefficient | Sig. Value | Description |
|-------------------------------|---------------------|------------|-----------------------------------|
| Adventure Shopping (X_1) | 0.1579 | 0.05 | Heteroscedasticity does not occur |
| Relaxation Shopping (X_2) | 0.1466 | 0.05 | Heteroscedasticity does not occur |
| Value Shopping (X_3) | 0.1729 | 0.05 | Heteroscedasticity does not occur |
| Social Shopping (X_4) | 0.254 | 0.05 | Heteroscedasticity does not occur |
| Idea Shopping (X_5) | 0.1659 | 0.05 | Heteroscedasticity does not occur |

Autocollinearity Test Results. Based on the output, Durbin Watson (DW) = 673. If DW is 1.55-2.46, it is considered that autocollinearity does not occur in this regression model.

Table 6 – Durbin Watson

| Model | Durbin Watson |
|-------|---------------|
| 1 | 673 |

DISCUSSION OF RESULTS

Based on the results of multiple linear regression equation, R value was obtained 0.619. It meant that contribution of independent variable of Adventure Shopping (X_1), Relaxation Shopping (X_2), Value Shopping (X_3), Social Shopping (X_4) and Idea Shopping (X_5) to the dependent variable of Impulse Buying (Y) is 61.9%. It showed a very close relationship and multiple determination coefficient (R^2) of 38.4% in which showed the influence of independent variable variations of Adventure Shopping (X_1), Relaxation Shopping (X_2), Value Shopping (X_3), Social Shopping (X_4) and Idea Shopping (X_5) to the dependent variable of Impulse Buying (Y) while the remaining were variables not under research 61%.

To see the significance of all independent variables of Adventure Shopping (X_1), Relaxation Shopping (X_2), Value Shopping (X_3), Social Shopping (X_4) and Idea Shopping (X_5) to the dependent variable of Impulse Buying (Y) on online-shopping consumer in Instagram, it can be seen from ANOVA table where the value of F_{count} equal to 12.829 bigger than F_{table} equal to 2.699 with the significance of 0.000 smaller than the significant level of 0.005. This shows Adventure Shopping (X_1), Relaxation Shopping (X_2), Value Shopping (X_3), Social Shopping (X_4) and Idea Shopping (X_5) to the dependent variable of Impulse Buying (Y) has significant influence on the change of dependent variable of Impulse Buying (Y) on online-shopping consumer in Instagram; it was supported by the first hypothesis that independent variables of Adventure Shopping (X_1), Relaxation Shopping (X_2), Value Shopping (X_3), Social Shopping (X_4) and Idea Shopping (X_5) had influences to the dependent variable of Impulse Buying (Y) on online-shopping consumer in Instagram.

Simultaneous Analysis and Discussion of the Test (F-test). Simultaneous or joint test (F-test) was conducted to know the significant influence of Adventure Shopping (X_1), Relaxation Shopping (X_2), Value Shopping (X_3), Social Shopping (X_4) and Idea Shopping (X_5) to Impulse Buying (Y). F-test was conducted by comparing the F_{count} and F_{table} . The test was conducted at the level of significant 95%, $\alpha = 0.05$ with the degree of freedom (df) $n-k-1 = 109-5-1 = 103$.

Table 7 – Simultaneous Test Results (F-test)

| Correlation Coefficient (R) | Determination Coefficient (R^2) | F_{count} | F_{table} | Sig. | Description |
|-----------------------------|-------------------------------------|--------------------|--------------------|-------|-------------|
| 0.619 | 0.384 | 12.829 | 2.669 | 0.000 | Significant |

Based on the summary of multiple linear regression results in the table, it showed that F_{count} is 12.829 and F_{table} distribution had level of error 5% 2.669. It meant that $F_{\text{count}} > F_{\text{table}}$ (12.829 > 2.669). It showed that Adventure Shopping (X_1), Relaxation Shopping (X_2), Value Shopping (X_3), Social Shopping (X_4) and Idea Shopping (X_5) variable simultaneously had influences to Impulse Buying (Y) variable. Therefore, the authors concluded that the first, second, and third hypothesis of the research is proven and acceptable.

Determination Coefficient (R^2). Based on the summary of multiple linear regression results in table 4.3, it showed the value of $R = 0.619$. It meant that there was positive and strong relationship between the influence of Adventure Shopping (X_1), Relaxation Shopping (X_2), Value Shopping (X_3), Social Shopping (X_4) and Idea Shopping (X_5) and Impulse Buying (Y). It had correlation of 61.9%. From these results, coefficient determination (R^2) value was 38.4% of the dependent variable: Impulse Buying (Y). The remaining 61.6% was influenced by other factors not under research.

Partial Test (t -test). Partial test aims to see the extent of the influence separately from each independent variable (X) to dependent variable (Y) based on the results of multiple linear regressions that are conducted by comparing the value of t_{count} and t_{table} ; it can be concluded that the variable had a significant influence.

Table 8 – Partial Test Results (t -test)

| Variables | Regression Coefficient | Correlation Coefficient | t_{count} | t_{table} | Sig. | Description |
|---------------------|------------------------|-------------------------|--------------------|--------------------|-------|-------------|
| Constant | -22.093 | | | | | |
| Adventure Shopping | 0.246 | 0.244 | 3.149 | 2.009 | 0.001 | Significant |
| Relaxation Shopping | 0.227 | 0.224 | 2.890 | 2.009 | 0.005 | Significant |
| Value Shopping | 0.170 | 0.166 | 2.142 | 2.009 | 0.027 | Significant |
| Social shopping | 0.254 | 0.042 | 2.548 | 2.009 | 0.020 | Significant |
| Idea Shopping | 0.1.659 | 0.514 | 6.64 | 2.009 | 0.000 | Significant |

Adventure Shopping Variable (X_1). The influence of Adventure Shopping (X_1) variable to Impulse Buying of online-shopping consumer on Instagram can be seen on the partial correlation coefficient value of 0.244. It means that contribution (influence) of Adventure Shopping variable (X_1) to Impulse Buying is 24.4%. The value of t_{count} for this variable is 3.149, bigger that the value of t_{table} of 2.009. Then, $t_{\text{count}} > t_{\text{table}}$, H_0 is rejected and H_1 is accepted. In addition, Adventure Shopping (X_1) variable has a significant value of 0.001 smaller than (α) 0.05. It shows that Adventure Shopping (X_1) variable has positive and significant influence on Impulse Buying (Y) variable.

Relaxation Shopping Variable (X_2). The influence of Relaxation Shopping (X_2) variable to Impulse Buying of online-shopping consumer on Instagram can be seen on the partial correlation coefficient value of 0.224. It means that contribution (influence) of Relaxation Shopping variable (X_2) to Impulse Buying is 22.4%. The value of t_{count} for this variable is 2.890, bigger that the value of t_{table} of 2.009. Then, $t_{\text{count}} > t_{\text{table}}$, H_0 is rejected and H_1 is accepted. In addition, Relaxation Shopping (X_2) variable has a significant value of 0.005 smaller than (α) 0.05. It shows that Relaxation Shopping (X_2) variable has positive and significant influence on Impulse Buying (Y) variable.

Value Shopping Variable (X_3). The influence of Value Shopping (X_3) variable to Impulse Buying of online-shopping consumer on Instagram can be seen on the partial correlation coefficient value of 0.166. It means that contribution (influence) of Value Shopping (X_3) to Impulse Buying is 1.66%. The value of t_{count} for this variable is 2.142, bigger that the value of t_{table} of 2.009. Then, $t_{\text{count}} > t_{\text{table}}$, H_0 is rejected and H_1 is accepted. In addition, Value Shopping (X_3) variable has a significant value of 0.027 smaller than (α) 0.05. It shows that Value Shopping (X_3) variable has positive and significant influence on Impulse Buying (Y) variable.

Social Shopping Variable (X_4). The influence of Social Shopping (X_4) variable to Impulse Buying of online-shopping consumer on Instagram can be seen on the partial correlation coefficient value of 0.042. It means that contribution (influence) of Social Shopping (X_4) to Impulse Buying is 0.42%. The value of t_{count} for this variable is 2.548, bigger that the value of t_{table} of 2.009. Then, $t_{\text{count}} > t_{\text{table}}$, H_0 is rejected and H_1 is accepted. In addition, Social Shopping (X_4) variable has a significant value of 0.020 smaller than (α) 0.05. It shows that Social Shopping (X_4) variable has positive and significant influence on Impulse Buying (Y) variable.

Idea Shopping Variable (X_5). The influence of Idea Shopping (X_5) variable to Impulse Buying of online-shopping consumer on Instagram can be seen on the partial correlation coefficient value of 0.514. It means that contribution (influence) of Idea Shopping (X_5) to

Impulse Buying is 5.14%. The value of t_{count} for this variable is 6.641, bigger than the value of t_{table} of 2.009. Then, $t_{\text{count}} > t_{\text{table}}$, H_0 is rejected and H_1 is accepted. In addition, Idea Shopping (X_5) variable has a significant value of 0.000 smaller than (α) 0.05. It shows that Idea Shopping (X_5) variable has positive and significant influence on Impulse Buying (Y) variable.

CONCLUSION AND SUGGESTIONS

Based on the results of the analysis and discussion in the previous chapter, the conclusion can be drawn as follows:

The following equation was obtained from multiple linear regression analysis:

$$Y = -22.093 + 0.1.579X_1 + 0.1.466X_2 + 0.1.729X_3 + 0.254X_4 + 0.1.659X_5$$

From the equation above, it can be seen that Adventure Shopping (X_1), Relaxation Shopping (X_2), Value Shopping (X_3), Social Shopping (X_4) and Idea Shopping (X_5) variables have positive and significant influences on Impulse Buying (Y) of online-shopping consumer on Instagram.

The value of correlation coefficient (R) is 0.619 which means that there is positive and strong relationship--seen from the interpretation table--that is in the position between 0.600-0.799 of Adventure Shopping (X_1), Relaxation Shopping (X_2), Value Shopping (X_3), Social Shopping (X_4) and Idea Shopping (X_5) to Impulse Buying (Y) of online-shopping consumer on Instagram.

The determination coefficient value (R^2) shows that Adventure Shopping (X_1), Relaxation Shopping (X_2), Value Shopping (X_3), Social Shopping (X_4) and Idea Shopping (X_5) variables are able to explain the Impulse Buying (Y) of online-shopping consumer on Instagram of 38.4% while the rest of 61.6% are influenced by other factors.

From the results of partial testing (t-test), it is concluded that:

- Adventure Shopping (X_1) variable gives significant influence to Impulse Buying (Y). It can be seen from $t_{\text{count}} > t_{\text{table}}$ or $3.149 > 2.009$ and it is also supported by significance value $0.001 < 0.05$.
- Relaxation Shopping (X_2) variable gives significant influence to Impulse Buying (Y). It can be seen from $t_{\text{count}} > t_{\text{table}}$ or $2.890 > 2.009$ and it is also supported by significance value $0.005 < 0.05$.
- Value Shopping (X_3) variable gives significant influence to Impulse Buying (Y). It can be seen from $t_{\text{count}} > t_{\text{table}}$ or $2.142 > 2.009$ and it is also supported by significance value $0.027 < 0.05$.
- Social Shopping (X_4) variable gives significant influence to Impulse Buying (Y). It can be seen from $t_{\text{count}} > t_{\text{table}}$ or $2.548 > 2.009$ and it is also supported by significance value $0.020 < 0.05$.
- Idea Shopping (X_5) variable gives significant influence to Impulse Buying (Y). It can be seen from $t_{\text{count}} > t_{\text{table}}$ or $6.641 > 2.009$ and it is also supported by significance value $0.000 < 0.05$.

From the result of simultaneous testing (F-test), it is concluded that $F_{\text{count}} > F_{\text{table}}$ or $12.829 > 2.669$ with the level of significance of 0.000 indicating that Adventure Shopping (X_1), Relaxation Shopping (X_2), Value Shopping (X_3), Social Shopping (X_4) and Idea Shopping (X_5) variable have influences to Impulse Buying (Y) variable.

To complete the results of this research, the writers provide the following suggestions:

- Online Shopping on Instagram should be able to provide interesting website design and product display visually and creatively in order to give a memorable and pleasant atmosphere for the consumers during shopping. Thus, the consumers get not only the product but also fun and entertainment.
- Offering discounts or cheaper prize on online sales is one strategy in the effort to increase impulse buying of the consumers. In addition, online business must pay attention to the quality of the products. Based on the research results, value shopping significantly influences impulse buying.

- It is important for the online business to provide the best service, including in answering or responding to questions from consumers, so that the consumers feel satisfied and get information about the products to be purchased. In addition, it increases impulse buying of consumers. Based on research results, social shopping influences impulse buying.
- Online business is required to always make new innovations, follow the latest trends and products so that the consumers visit the website more often with the aim to keep up with the latest trends. In addition, it can encourage someone to be impulsive on online shopping. It is based on the research results that idea shopping influences impulse online.
- From the research results, it is believed that there are many other factors that can influence impulse buying. Therefore, it is suggested for the future researchers to take other variables other than the variables of this research in order to provide better results in describing the appropriate conditions in accordance with the aim of the author.

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THE EFFECT OF QUALITY OF WORK-LIFE AND MOTIVATION ON EMPLOYEE ENGAGEMENT WITH JOB SATISFACTION AS AN INTERVENING VARIABLE

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ABSTRACT

This study aims to analyze the effect of quality of work-life and work motivation on employee engagement and job satisfaction as an intervening variable. Quality of work-life is the foundation which determines the level of satisfaction and engagement in an organization. Explanatory research with a quantitative approach was conducted on a private university in Malang with 74 respondents. This study uses Path Analysis to examine research data. It is found that the motivation provided by the university towards the lecturer, such as job security, reward, and spirit, can increase the satisfaction and engagement. Similarly for job satisfaction, the relationship between colleagues and a comfortable working environment can create lecturers' engagement in the institution.

KEY WORDS

Quality, work motivation, job satisfaction, employee, engagement.

Strategy to achieve the advantage of human resources by optimizing the role of each human resource (HR) so as to encourage morale and compete and create a good quality of work life and able to increase motivation. This will be useful as a way to retain employees, when the management of quality of work life aims to improve competitiveness for the company. Quality of work life is the implementation of Human Resource Management (HRM) policies and practices designed to improve organizational performance and employee welfare (Stone, 2005). Better quality of work life leads to an increase in employee morale, minimizing friction and reducing labor turnover. Therefore, the assumed that when the right atmosphere is provided to employees, they can provide effective and efficient performance (Arif & Ilyas, 2013). Quality of work life has a perspective of managerial approach that emphasizes on factors that effect work motivation and job satisfaction. If the employee feels that the needs of the workplace are available or exceed expectations, then they feel a better level of quality of work life, which will increase their level of job satisfaction. In addition, Quality of Work Life not only affects job satisfaction but also other forms of life satisfaction that is family relations, recreation and social aspects (Crohan et al., 1989; Schmitt and Mellon, 1980; Sirgy et al., 2001; in Lee et al., 2015). When viewed the impact on motivation, which Ivancevich (2010), explained that motivation can provide energy, channel, and a person's behavior to achieve company goals. Motivation relates to the strength and direction of behavior and the factors that influence people to behave in a certain way (Armstrong, 2010). Therefore, motivation needs to be considered by a leader. If the employee motivation is high it will have an impact on the increase of job satisfaction.

Ference (1982) argues that employee perceptions of the quality of work life that can satisfy their needs can significantly improve job satisfaction. In addition, the higher the level of job satisfaction will cause employees engaged in their workplace (Park & Gursoy, 2012). Employee engagement is defined as a general level of commitment and employee engagement with company values. When employees are involved, they will realize their responsibilities and motivate colleagues to achieve organizational goals (Anitha, 2014). Research conducted by Kanten & Sadullah (2012) which explains the influence between the

quality of work life to employee engagement and the results show the difference in the level of engagement in the employees who depend on the motivation of each individual. When an employee is engaged in a job, it affects the employee's psychological character, such as self-confidence and optimism, will encourage employees further and this will encourage satisfaction and result in low employee turnover intentions.

In this research found research gap from previous research that is, research by Günay & Boylu (2014) shows that quality of work life a negative effect on job satisfaction. The study shows that there is a decrease in the level of quality of work life among academics, but job satisfaction increases. Research conducted by Lee, et al. (2015) revealed that each attribute of quality of work life has a different impact on job satisfaction. The results of the study explain the quality of work life does not fully have a positive and significant impact on job satisfaction. Therefore, it is necessary to conduct further research on the quality of work life on job satisfaction. In addition, there are also some phenomena that occur such as the workload of lecturers is very high so it needs to be considered the quality of life work. This refers to "Tri Dharma" of the university that includes education & teaching, research, community service, and supporting activities such as active in the committee. In addition, there are additional teaching hours for regular class students in the afternoon (extension program) increase the workload of lecturers.

Currently, the competition of universities in Indonesia, especially in Malang is increasing.. They are competing to get quality inputs that can compete in national and international level. Various methods have been done by universities to achieve the goals. One of them is to improve the quality of work life and motivation of lecturers in universities. If the lecturers have the high motivation they will show their totality and loyalty to the institution, but if they do not have motivation, then the lecturers tend to show less optimal performance. This situation will greatly affect the quality of the universities. From the explanation of the phenomenon and research gap in this study, the purpose of this study is to analyze the quality of work life and motivation to employee engagement with job satisfaction as an intervening variable at lecturers of the Merdeka University of Malang.

LITERATURE REVIEW

Quality of Work Life. A condition of the outcome of an interaction between individuals and jobs, can make employees more productive and lead to job satisfaction is a form of quality of work life. Cascio (2006) defines that quality of work life is the employee's perception of their mental and physical well-being in the workplace. Furthermore, Nawawi (2001) argues the quality of working life is program that includes method to improve the quality of life by creating a better job. There are two ways to understand the definition of Quality of Work Life (QWL) according to Cascio (2006). The first, that quality of work life is a collection of situation and practices of organizational goals, such as promotional policy, democratic work supervision systems, employee engagement, and security works. The second is the quality of work life is viewed with the perception that the employees are safe, very satisfied, and can grow up and develop as human beings. Both of these views based of emphasize the relationship between the quality of work life with the available of employee needs.

Quality of Work Life means the important of reward to employee in their working environment can change the work climate so that the organization can technically bring employees to a better quality of work life. Efforts in improving the quality of work life according to Cascio (2006) are: (1) the leader must be able to protect, (2) the openness and trust between colleagues, (3) sharing information between top management with staff, (4) change to achieve goals. In this study, the indicators used to measure Quality of work life refers to research conducted by Lee et al. (2015), such as health and safety needs, economic needs, self-actualization needs and self-actualization and esteem needs, social and knowledge needs.

H1: Quality of Work Life has a significant effect on Job Satisfaction.

Work Motivation. The motivation of work is a condition that encourages others to perform tasks in accordance with their functions within the organization, have the ability to

act and respond in achieving the goals and objectives of the organization (Bangun, 2012; Siagian, 2004). The purpose of providing work motivation is an encouragement for employees to a good job and can provide good performance for the company.

Rivai (2011) states the process of work motivation is the willingness to use maximal the results of efforts in achieving company goals with the intention of satisfying some personal needs. The need must also be consistent and consistent with the objectives of the company. Fulfilling the needs of the less will create gap between employees, management, and top management.

In this research used indicator from research Tremblay et al. (2009) is intrinsic motivation as an activity for self-interest because everyone will find their own activities and satisfying for it. While extrinsic motivation is doing the activity because of an reason. There are various types of extrinsic motivations that can be controlled relative by external factors, such as self-regulation through the goals and values of the individuals obtained.

H2: Work Motivation has a significant effect on Job Satisfaction.

Employee Engagement. An individual employee engagement, satisfaction, and enthusiasm for doing his job is a form of employee engagement (Robbins & Judge, 2007). Can be interpreted that the employee engagement as a positive motivational developing by vigor, dedication, and absorption (Schaufeli, 2002). In an organization to develop and maintain engagement, a two-way relationship is required between management and employee, (Robinson et al., 2004). Schaufeli et al., (2002) explain that there are three dimensions of employee engagement, such as:

a) Vigor, characterized by high levels of energy and mental stamina at work, willingness to invest effort in work effort, diligent and strong..

b) Dedication, characterized by enthusiasm, inspiration, pride, and challenge. Dedication not only includes the cognitive dimension, but also the affective dimension

c) Absorption, characterized by a high concentration and great fun with the work, where time passes quickly and someone has difficulty separating from work.

In this study to measure the level of employee engagement used three dimensions employee engagement proposed by Schaufeli et al. (2002) namely dimensions Vigor, Dedication, and Absorption.

H3: Quality of Work Life has a significant effect on Employee Engagement.

H4: Work Motivation has a significant effect on Employee Engagement.

Job Satisfaction. When individuals talk about employee attitudes, it means a job satisfaction. Job satisfaction is a positive feeling about a person work that is the result of a performance evaluation (Robbins & Judge, 2007). With job satisfaction, an employee can feel his job is fun or not to work (Bangun, 2012). Many factors that affect employee job satisfaction, not only about salary, but there are factors related to the work itself, such as relationships with top management and employee, working conditions, and regulations.

In this study, the indicators and items to be used for measuring job satisfaction refer to research conducted by Closon et al. (2015) such as the work itself, the work environment, working relationships with colleagues, and supervision. The impact that will be seen if an employee is satisfied in working is more productive, have a high loyalty, and will be more involved in achieving company goals.

H5: Job Satisfaction has a significant effect on Employee Engagement.

H6: Quality of Work Life has a significant effect on Employee Engagement through Job Satisfaction as an intervening variable.

H7: Work Motivation has a significant effect on Employee engagement through Job Satisfaction as an intervening variable.

METHODS OF RESEARCH

The research method used in this study is explanatory research with quantitative approach. Explanatory research is a research that intends to explain the position of the variables studied and the relationship between research variables (Sugiyono, 2012).

Location and sample. This research was conducted at the Merdeka University of Malang with the respondents are 74 lecturers. The questionnaires are distributed as much as

74 questionnaires and then all the questionnaires are processed to get the results of the respondents' answers.

Measurement and research instruments. The independent variables used in this research is Quality of Work Life (QWL), where the variable measured using indicators developed by Lee et al. (2015), that is health & safety needs, economic needs, self-actualization & esteem needs and social & knowledge needs. Next, Work Motivation variable measured using indicators developed by Tremblay et al. (2009) are intrinsic & extrinsic motivation. The dependent variable in this research is Job Satisfaction variable which is measured by using indicators developed by Closon et al. (2015) that is work, work environment, relationship with colleague and supervision. While the intervening variable is employee engagement variable measured by using indicators developed by Schaufeli et al., (2002) that is vigor, dedication, and absorption. Each indicator is measured by the Likert scale of 1 (one) to 5 (five). 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree and 5 = strongly agree. This research using Path analysis to get the result of questionnaire processing.

The hypothesis in this research that is:

H1: Quality of Work Life has a significant effect on Job Satisfaction.

H2: Work Motivation has a significant effect on Job Satisfaction.

H3: Quality of Work Life has a significant effect on Employee Engagement.

H4: Work Motivation has a significant effect on Employee Engagement.

H5: Job Satisfaction has a significant effect on Employee Engagement.

H6: Quality of Work Life has a significant effect on Employee Engagement through Job Satisfaction as an intervening variable.

H7: Work Motivation has a significant effect on Employee Engagement through Job Satisfaction as an intervening variable.

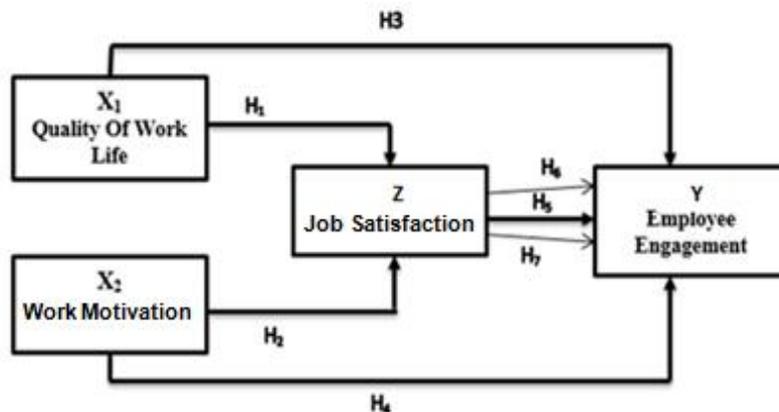


Figure 1 – Hypothesis models

RESULTS AND DISCUSSION

Based on survey results, the majority of respondents are female (54%) with an average age of 39 to 49 years (35%). Most respondents work experience was more than 20 to 24 years (23%) and the level of education is the master program of 60 people (81%). In accordance with the hypothesis that has been described, then this study using inferential statistical data analysis measured by using Path analysis.

Based on table 1, while the hypothesis of research is: hypothesis 1 which states Quality Of Work Life has a significant effect on Job Satisfaction, showing the beta coefficient of 0.544 with t-statistics of 6.041 and probability of 0.000 ($p < 0.05$), then the decision is Quality Of Work Life has a significant effect on Job Satisfaction accepted. The results of this study support previous research conducted by Lee et al. (2015). But, this study does not support research conducted by Arif & Ilyas (2013) which states that quality of work life does not affect the commitment and engagement of employees. And also not support research

conducted by Gunay and Boylu (2014) which shows some variable quality of working life has no significant effect on job satisfaction. If seen in practice at the University of Merdeka, Quality of work life in the University of Merdeka Malang can improve the dignity of employees through job satisfaction and humanize workers by providing a comfortable working environment, providing opportunities to grow, reward good lecturers, and make time for socializing.

Table 1 – Hypothesis Testing Result

| Hypothesis | | Standardized Coefficients (Beta) | T-statistics | Sig. | Conclusion |
|------------|----------------------------------------------------------------------------|----------------------------------|-----------------|--------------|-------------|
| H1 | Quality of Work life → Job satisfaction | 0.544 | 6.041 | 0.000 | significant |
| H2 | Work Motivation → Job Satisfaction | 0.372 | 4,137 | 0.000 | significant |
| H3 | Quality of Work life → Employee Engagement | 0.214 | 2.005 | 0.049 | significant |
| H4 | Work Motivation → Employee engagement | 0.221 | 2.285 | 0.025 | significant |
| H5 | Job Satisfaction → Employee engagement. | 0.496 | 4.337 | 0.000 | significant |
| | | Direct Effect | Indirect Effect | Total effect | |
| H6 | Quality of Work Life (X1) → Job Satisfaction (Z) → Employee engagement (Y) | 0.214 | 0.270 | 0.484 | significant |
| H7 | Work Motivation (X2) → Job Satisfaction (Z) → Employee engagement (Y) | 0.221 | 0.185 | 0.406 | significant |

Source: Data that have been processed by using Path Analysis.

Hypothesis 2 which states Work Motivation has a significant effect on Job satisfaction, showing the beta coefficient of 0.372 with t-statistics 4,137 and probability 0.000 ($p < 0,05$), then the decision that Work Motivation has a significant effect on Job satisfaction is accepted. The results of this study support previous research conducted by Hayati and Caniago (2012) which shows that the motivation of work directly affects job satisfaction. Robbins and Judge (2007) state that Motivation as a process that explains the intensity, direction, and perseverance of efforts to achieve a goal. In this study, University of Merdeka is considered capable of providing a sense of security in the sustainability of work, such as long service guarantee so that it can motivate the lecturers.

Hypothesis 3 which states Quality Of Work Life has significant effect to Employee Engagement, showing the beta coefficient of 0.214 with t-statistics equal to 2.005 and probability equal to 0.049 ($p < 0.05$), then the decision of Quality Of Work Life has significant influence to Employee Engagement is accepted. The results of this study support previous research conducted by Kanten & Sadullah (2012) which shows that quality of work life has a direct and significant effect on employee engagement. The relationship of quality of work life with employee engagement can be reinforced by the social exchange theory proposed by Thibault and Kelley in Bungin (2008). This theory suggests that one's contribution in a relationship, in which the relationship can affect the contribution of others.

In the next hypothesis, Work Motivation has a significant effect on Employee Engagement, which is shown by the beta coefficient of 0.221 with t-statistics of 2.285 and probability of 0.025 ($p < 0.05$), then the decision is hypothesis 4 is accepted. The results of this study support previous research conducted by Mehrzi & Singh (2016) which showed that the motivation of employees also affects employee engagement. The study was conducted at the University of Abu Dhabi. In this research lecturer at the Merdeka University of Malang has high work motivation. Giving intrinsic and extrinsic motivation is necessary to keep in mind in order to create a moral so that it will affect the involvement of lecturers at the Merdeka University of Malang.

The result of testing of Job Satisfaction on Employee Engagement a beta coefficient value of 0.496 with t-statistics of 4.337 and probability of 0.000 ($p < 0,05$), stated that hypothesis 5 is accepted. This study supports previous research conducted by Bailey et al. (2016) which shows that job satisfaction affects directly to employee engagement. Macey and Schneider (2008) identified two components of employee engagement namely, the

involvement of feelings (focus and enthusiasm). In this study found that lecturers of the Merdeka University of Malang have the considerable energy to work. In addition, the lecturers also feel very challenged with the work provided. When a lecturer is engaged with work, it will affect his psychological characters, such as confidence and optimism. This can encourage lecturers to work even further and will encourage satisfaction and impact on high commitment.

So it is with hypothesis 6 and hypothesis 7 is accepted. In hypothesis 6 that indirect effect of Quality of Work Life variable to Employee Engagement through Job Satisfaction equal to 0.270, so the total effect of Job Satisfaction to Employee Engagement equal to 0,484. Hypothesis test results obtained Z value of 2.035. The value of Z statistics $2.035 > 1.96$ so there is indirect effect Quality Of Work Life on Employee Engagement through Job Satisfaction significantly. The results of this study do not support research conducted by Arif and Ilyas (2013) which states that the quality of work life has an effect on job satisfaction, but has no impact on employee engagement.

In hypothesis 7 that indirect effect of Work Motivation variable to Employee Engagement through Job Satisfaction equal to 0.185, so the total effect of Job Satisfaction to Employee Engagement equal to 0.406. It shows that Job Motivation variable gives the highest effect on Employee Engagement. The result of hypothesis testing gets Z value of 1.988. The value of Z statistics $1.988 > 1.96$ so that H_0 rejected which means that there is indirect effect Motivation Work on Employee Engagement through Job Satisfaction significantly. The results of this study support previous research conducted by Hayati and Caniago (2012). Lecturers of the University of Merdeka Malang who have high work motivation and job satisfaction can form a situation that makes themselves feel engaged at the university. Lecturers who are engaged will have a high commitment also to where they work. Therefore, the provision of motivation to the lecturers is very important in order to improve job satisfaction and employee engagement.

CONCLUSION

Quality of Work Life which is a condition as a result of interaction between individual and work in an institution will create a situation where if the interaction is good, it will affect work motivation and job satisfaction and create employee engagement. In this research, there are suggestions and limitations of research that is expected by the Merdeka University of Malang to maintain and improve the service to Job Motivation, because Job Motivation variables have a significant influence on Employee Engagement through Job Satisfaction so that Employee Engagement will get better. Given the many other variables that are not included in this study, it is expected to further researchers to add related variables so as to refine the previous research.

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INVESTMENT DEPOSITS DECISION-MAKING IN BANK: A BEHAVIORAL FINANCE PERSPECTIVE

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ABSTRACT

This research was conducted using behavioral finance theories. The objectives of this research was to analyze determining factors of investment deposits decision-making for the depositor, and to analyze the most dominant factor of investment deposits decision-making in Bank NTB of Pejanggik Principle Branches. The instrument of this research was questionnaire with the total sample of 90 respondents who were the deposit customers. The research results show that deposits' interest, gain and cost, feelings of disappointment and satisfaction, worries, reluctances, good companies, budget allocation, self-control, net interest income, belief in net interest income, overestimate and underestimate are factors determining investment deposits decision-making in Bank NTB of Pejanggik Principle Branches. Dominant factors determining investment deposits decision-making are deposits cost, interest and feelings of satisfaction, budget allocation, overestimate and self-control. Those factors are included in the factor group of deposits cost.

KEY WORDS

Behavioral finance, investment, decision-making, deposit, bank.

Investment is a placement of the number of current funds with the expectation of getting profits in the future (Halim, 2005). Deposits investment is one kind of financial asset investment that is widely-known by society. Nowadays, deposits investment development is getting higher. Bank NTB is a regional bank offering deposit program in which the deposit disbursement should not conduct when the deposit due date and also is not imposed penalty cost, it only asks daily interest as per total time funds placement. Even though a customer deposit of Bank NTB of Pejanggik Principle Branches is given offerings to not pay penalty cost when disbursing the deposit prior to the expiry of the agreement, but several of them still disburse the deposit before the time. In some cases, Bank NTB of Pejanggik Principle Branches cannot hold a priority customer who gets a special rate. As a result, it frequently happens instability of deposits total development in Bank NTB of Pejanggik Principle Branches, especially retail deposit customer. This total deposit instability is recurring annually, whereas an asset development of Bank NTB of Pejanggik Principle Branches has been better. This indicates that there is still another factor influencing customer of Bank NTB of Pejanggik Principle Branches to invest, especially investment deposits. Another cause such psychological factor also influences someone to invest.

Investment analysis using psychological science is known as behavioral finance (Manurung, 2012). Behavioral finance is a study of how people actually behave to make a decision related to finance, in addition, this also explains how people invest or do an activity related to the finance influenced by a psychological factor (Nofsinger, 2005). This can be related to the situation of Bank NTB of Pejanggik Principle Branches, in which total asset increases but total deposits tend to be less stable. Behavioral finance can be related to the factor influencing depositor on investment decision-making, and finally, forming a behavioral finance of each depositor to invest his/her funds in Bank NTB of Pejanggik Principle Branches.

Shefrin (2007) categorizes behavioral finance aspects playing role in investment decision-making i.e bias, heuristic, and framing effect. If changed into general variable, behavioral finance contains several variables that can be used as a consideration by investor to make a decision, among other, agency, overconfidence, anchoring, gambler's fallacy, loss aversion, regret aversion, mental accounting, dering speed and etc. (Abedini et al., 2014). A study conducted by Luong et al (2011) reveals that the most determining variable of investor's assessment system more refers to the prospect theory consisted of regret aversion, loss aversion, and mental accounting. Mental accounting is a decision in which the investor considers cost and benefit during the investment decision making (Nofsinger, 2005). A not happy feeling if investment selling price is cheaper than the purchase price, and a sensitive feeling towards loss than benefits is called loss aversion. In addition, loss aversion has a higher level of a feeling of disappointment when suffering loss than the level of satisfaction obtained after getting the same amount of benefits. Regret aversion variable influencing an investor to make an investment is as follow. According to Anastasia et al., (2015) regret aversion is an investor's most-determining variable on investment decision-making. Regret aversion makes investor too much worry and do not want to make another option, then causes investor more likes good companies. However, Abedini et al. (2014) found that regret aversion, loss aversion, and mental accounting generally have a negative influence on investment performance from all investors, while overconfidence and anchoring are an effective factor in investment. According to Shefrin (2007), anchoring is a condition in which an investor makes a numeric prediction as a reference, and then makes an adjustment but tends to not be able to make the proper adjustment. While overconfidence, according to Nofsinger (2005), is a feeling of overconfidence that brings overestimate and underestimate characteristic.

In addition to the variable consisting of mental accounting, loss aversion, regret aversion, overconfidence, and anchoring, there is also self-control grouped into one of the considered factors in investment decision-making. As in Riaz and Iqbal's (2015) research which indicates that overconfidence, optimism bias, and self-control have a positive influence on the investor's investment decision-making. Self-control is a variable which relates to the financial management, in which an investor spend his/her money in accordance with the needs not wants (Baumeister, 2002).

According to that phenomenon, research gap and investment deposits data in Bank NTB of Pejanggik Principle Branches that tends to be fluctuating so that conducted a research on investment decision-making in PT. Bank NTB of Pejanggik Principle Branches based on the behavioral finance perspective, with aims as follow:

- To analyze determining factors of investment deposits decision-making of Bank NTB of Pejanggik Principle Branches' depositor;
- To analyze the most dominant factor on investment deposits decision-making in Bank NTB of Pejanggik Principle Branches.

LITERATURE REVIEW

Behavioral Finance. According to Ricciardi (2000), behavioral finance is an area of expertise associating interaction of various sciences within and continuously integrated so that the discussion is not given isolation. Three aspects that influence someone's behavioral finance are psychology, sociology, and finance. Pompian (2006) separates behavioral finance into two sub-topics which will ease people to understand the benefits of learning behavioral finance. The first sub-topic is micro and macro behavioral finance. According to Lintner (1998), behavioral finance is a study of how people behave and act the existing information in the effort of making a decision which can optimize the rate of return considering associated risk within (element of character and people behavior is an a determining factor in investing).

Iramani (2011) through his research entitled Capitalist Behavior Model towards Risk and Investment Type in the Banking Sector (Technology-Based Behavioral Finance Study) uses several variable indicators, among other, overconfidence, data mining, herd-like

behavior, status quo, social interaction, emotion, mental accounting, vividness bias, anchoring, representativeness, familiarity, pride and regret, considering the past, fear and greed, as well as self-control. This research shows that there are five factors which form capitalist behavior of banking sector i.e investment security, experience and skill in investment, social interaction consideration and prudential investment, coziness, and emotion.

Limanjaya's (2014) research reveals that the majority of respondent gives a positive response towards all research elements consisted mental accounting, representativeness, familiarity, considering the past, overconfidence, data mining, social interaction, fear and greed, status quo, and emotion. A study conducted by Riaz and Iqbal (2015) entitled Impact of Overconfidence, Illusion of Control, Self Control and Optimism Bias on Investor Decision Making; Evidence from Developing Markets uses several variables, among other overconfidence, an illusion of control, self-control and optimism bias. The research result shows that overconfidence, self-control and optimism bias have a positive influence on investor decision making. In addition, Stromback et al., (2017) find that self-control has a positive influence on financial behavioral.

Prospect Theory. Prospect Theory is a theory developed by Kahnemen and Tversky (1979) and is a theory describing how someone individually evaluates profits and loss. Pompian (2006) also states that prospect theory also includes several bias concepts explained i.e framing, loss aversion, regret aversion, mental accounting, and self-control. However, this research uses several bias concepts, i.e. mental accounting, loss aversion, and self-control.

Mental accounting is a psychological factor that can be someone's tolls to control his/herself that causes people think rationally so that able to make a good decision (Thaller et al., 2008). An investor having mental accounting in transaction decision making is an investor considering cost and benefit from the decision made (Nofsinger, 2005). While regret aversion is described as a term to illustrate a feeling of disappointment after making a decision in a not specified decision in which the decision changes into the bad option, even though it is based on the right information. In addition, there is loss aversion factor which is a feeling of displeasure to sell his/her asset with lower selling price than the purchase price, this is categorized into loss aversion behavior (Ritter, 2003). An investor also has a tendency to sell his/her asset too quickly if thinking that s/he has obtained benefits or kept longer if suffering loss (Shefrin et al., 2000). An investor also tends to feel hurt when suffering loss than gain despite in the same number (Tilson, 2005). Self-control is a behavioral finance factor relating to the financial management, such as resisting the desires or encouragements to spend money in unreasonable amount become to spend money based on our needs not wants (Baumeister, 2002). In addition, according to Karlsson (1998), self-control is also used to avoid short-term preference to reach the long-term one and can be a strategy to prevent waste of money in allocating finance and planning investment.

Heuristic Theory. Heuristic tells how an investor has believed bias that can influence him to think and make a decision (de Bont et al., 2008). According to Ritter (2003), heuristic also can be referred to the rule of thumb or general provision relating to the character to help the decision-making process. Heuristic comprises five biases i.e anchoring, representativeness, availability bias, gambler fallacy and overconfidence (Luong et al., 2011). Yet this research's heuristic bias used is anchoring and overconfidence.

Anchoring is a behavior referring to the decision-making process when quantitative assessment needed and this assessment is influenced by investors' personal suggestion (Johnsson et al., 2002). In addition, Pompian (2006) mentions that anchoring and adjustment bias occurs when an investor is needed to estimate something unknown before so that the investor makes a provision of default number or anchor as the basis of estimation. Shefrin (2007) mentions that anchoring is a condition in which an investor makes a numeric prediction in beginning as the reference. De Bondt et al., (2008) states that anchoring is a form of bias that only believes in one kind of information so that the investment decision is based on the particular information only. While overconfidence, according to Nofsinger (2005), is the quality of being over certain which can grow overestimate characteristic

towards investor's knowledge and underestimates towards other investor's prediction, since it more believes in investor's knowledge.

Investment Decision Making. Decision making is defined as a whole process, not merely a simple action that only chooses a number of alternatives (Coulter and Robbins, 2007). While Handoko (2011) defines decision making as the determiner of a set of activity to reach the expected result and to finish a problem.

A study conducted by Schran (2012) reveals that reluctances of a regret aversion are a considered factor in the decision-making process. Zelenber et al., (1996) concludes that investor has a tendency to avoid disappointment in investment decision making, and regret aversion is an essential motivation in several stages of investment decision-making process.

Gazel (2015) gets a result that investor tends to avoid behavior creating regret and find a behavior that can result in benefits or pride. Regret aversion is said causing investment error since it is not always applied "buy low, sell high" theory. Abedini et al., (2014) concludes that only loss aversion which is positively a natural behavior owned by an investor. In addition, there is also a research result stating that overconfidence and anchoring are two factors with a positive effect on investment.

A study conducted by Anastasia et al., (2015) shows that regret aversion becomes the first thing the investor considers to invest residential property in Surabaya and loss aversion is the second factor to consider. While mental accounting is the third consideration in residential investment decision making in Surabaya. *Regret aversion is the most influential variable in investment decision making.*

Saraswati (2015) gets a result that anchoring and adjustment variable, as well as conservatism bias, have a positive influence on investment decision making based on the risk tolerance. If based on the company image, anchoring, adjustment and conservatism bias have a negative influence on investment decision making. While Kartini and Nugraha's (2015) research uses three variables i.e illusion of control, overconfidence, and emotion as well as 86 respondents. The research result shows that overconfidence has a positive influence on investment decision making.

Deposit. Deposit is servings whose withdrawal only can be conducted at a particular time based on the agreement between a customer and bank staff (Kasmir, 2011). Kind of deposit is among other deposit on call and time deposit.

METHODS OF RESEARCH

This was exploratory-descriptive quantitative research. This research finds and describes new relationships within a wide an complex problem. The sample used was the customer of retail deposit (company) of PT. Bank NTB of Pejanggik Principle Branches with 90 respondents. Data collection method used was survey method.

The sampling technique used to conduct this research was non-probability sampling technique, and the data collection technique used was using questionnaire. Analysis tool used was factor analysis. Factor analysis is a technique used to find factors being able to explain the relationship or correlation between various independent factor observed (Widarjono, 2010).

This research uses fourteen factors from six variables (mental accounting, regret aversion, loss aversion, overconfidence, anchoring, and self-control). Those fourteen factors are among other deposits interest, deposits gain, deposits cost (mental accounting), a feeling of disappointment, loss aversion, worries, reluctances, good companies (regret aversion), budget allocation, self-control, belief on net interest income, anchoring, overestimate and underestimate (overconfidence).

RESULTS AND DISCUSSION

Respondents Characteristic Description. This research used several respondent characteristics, consisted of both genders, age, income, total deposit and time of deposit. This research found 27.8% or as many as 35 respondents are men and 72.2% (65) is

women. The majority of the respondent is above 40 years old and their income ranges between 2.500.000 IDR (\$186.5) to 3.500.000 IDR (\$261.1). While for deposits value, the majority of the respondents deposit their money in the range of 25.000.000 IDR to 50.000.000 IDR. Time deposit used by respondents at most 3-month-time deposit is 86.7% (78 respondents).

Bartlett's Test of Sphericity and Kaiser Meyer Olkin. Bartlett's test of Sphericity (BTS) is a test used to see if the variable correlates or not within a population. BTS value obtained was 517.941 which means there is a relationship between the observed variable so that the analysis factor can be used to conduct this research.

Table 1 – MSA Last Value of Research Variable

| Indicator | MSA Value | Description |
|------------------------------------------------|-----------|-------------|
| Deposits Interest | 0.880 (a) | Fixed |
| Deposits Benefit | 0.624 (a) | Fixed |
| Deposits Cost | 0.806 (a) | Fixed |
| A Feeling of Disappointment | 0.812 (a) | Fixed |
| A Feeling of Satisfied / Level of Satisfaction | 0.896 (a) | Fixed |
| Worries | 0.894 (a) | Fixed |
| Reluctances | 0.845 (a) | Fixed |
| <i>Good Companies</i> | 0.874 (a) | Fixed |
| Budget Allocation | 0.807 (a) | Fixed |
| Self-Control | 0.821 (a) | Fixed |
| Net Interest Income | 0.848 (a) | Fixed |
| A Belief in Net Income Interest | 0.841 (a) | Fixed |
| <i>Overestimate</i> | 0.819 (a) | Fixed |
| <i>Underestimate</i> | 0.756 (a) | Fixed |

Source: Processed Primary Data, 2017.

This research results in MSA (Measure of Sampling Adequacy) value used to measure sample adequacy. MSA value obtained for each factor is above 0.5. According to Malhotra (1996), if MSA value is higher or equal to 0.5, that indicator or variable can be still used in factor analysis. Hence this preliminary MSA last value shows that there are 14 factors that can be used to the next stage of extraction stage as seen in table 1.

Extraction Factor. Extraction factor is a method used to reduce data from several indicators to result in a little more factor that can explain a correlation between the observed indicator (Widarjono, 2010).

If MSA value is higher than or equal to 0.5, the indicator analyzed in extraction factor stage can be used to the next step (Malhotra, 1996). The result of the first stage factor extraction can be seen in table 2.

Table 2 – The First Research Factor Extraction Result

| Indicator | MSA Value | Description |
|------------------------------------------------|-----------|-------------|
| Deposits Interest | 0.880 (a) | Fixed |
| Deposits Benefits | 0.624 (a) | Fixed |
| Deposits Cost | 0.806 (a) | Fixed |
| A Feeling of Disappointment | 0.812 (a) | Fixed |
| A Feeling of Satisfied / Level of Satisfaction | 0.896 (a) | Fixed |
| Worries | 0.894 (a) | Fixed |
| Reluctances | 0.845 (a) | Fixed |
| <i>Good Companies</i> | 0.874 (a) | Fixed |
| Budget Allocation | 0.807 (a) | Fixed |
| Self-Control | 0.821 (a) | Fixed |
| Net Interest Income | 0.848 (a) | Fixed |
| A Belief in Net Interest Income | 0.841 (a) | Fixed |
| <i>Overestimate</i> | 0.819 (a) | Fixed |
| <i>Underestimate</i> | 0.756 (a) | Fixed |

Source: Processed Primary Data, 2017.

According to the result of extraction factor, it gets fourteen factor having MSA value higher than 0.5. It means that the factor used is still included in the group having a correlation with the research. Therefore, those fourteen factors can be used.

This factor analysis also results in total result of variance explained telling about the size of variance which can be explained by the formed factor. Total variance explained can form 4 factor groups. This formed factor group will base on the eigenvalue if it is ≥ 1 the indicator is included in the factor development, but if eigenvalue is < 1 , it is not included in the factor development (Widarjono, 2010).

Factor Rotation. During the factor rotation stage, we can obtain any factor including in the formed factor groups and mention the name of every those factor groups. After rotating those fourteen factors using varimax rotation method, it gets four-factor groups below:

- The first-factor group is deposit cost, consisted of deposits interest factor by 0.540, deposit cost by 0.829, a feeling of satisfaction by 0.701, budget allocation by 0.706, self-control by 0.629 and overestimate indicator with the lowest value by 0.432.
- The second-factor group is called a belief on net interest income, consisted of net interest income factor by 0.650, believe on net interest income by 0.737 and indicator of underestimate by 0.620.
- The third-factor group is called good companies factor, this consists of worries by 0.489, reluctances by 0.655 and indicator of good companies by 0.674.
- The fourth-factor group is the last factor formed, it is called factor group of deposits gain, consisted of deposit gain factor by 0.834 and feeling of disappointment factor by 0.750.

Hence if seen from the rotation result, it is known that all factors used in this research determine the investment decision making in Bank NTB of Pejangik Principle Branches. The following table 3 indicates the result of the general factor rotation.

Table 3 – Research Rotation Result

| Indicator | Component | | | |
|--------------------------------|--------------|--------------|--------------|--------------|
| | 1 | 2 | 3 | 4 |
| Deposits Interest | 0.540 | 0.355 | 0.175 | 0.323 |
| Deposits Gain | 0.035 | 0.094 | 0.023 | 0,834 |
| Deposits Cost | 0.829 | 0.093 | 0.001 | 0.154 |
| A Feeling of Disappointment | 0.322 | 0.223 | 0.206 | 0.705 |
| A Feeling of Satisfaction | 0.701 | 0.114 | 0.382 | 0.023 |
| Worries | 0.305 | 0.288 | 0.489 | 0.292 |
| Reluctances | 0.188 | -0.062 | 0.655 | 0.369 |
| Good Companies | -0.440 | 0.127 | 0.674 | -0.047 |
| Budget Allocation | 0.706 | 0.229 | 0.297 | 0.083 |
| Self-Control | 0.629 | 0.193 | 0.376 | 0.140 |
| Net Interest Income | -0.105 | 0.650 | 0.346 | 0.341 |
| Beliefe on Net Interest Income | 0.313 | 0.737 | 0.004 | 0.231 |
| Overestimate | 0432 | -0.745 | -0.004 | 0,031 |
| Underestimate | 0.106 | 0.620 | 0.615 | -0.135 |

Source: Processed Primary Data, 2017.

Dominant Factor Determining Investment Deposits Decision-Making. Factor analysis result, which is a table of total variance explained, can describe the percentage of each factor group formed. The higher the extraction of sums of squared loadings value, the bigger the chance to be the representative of a variable (Widarjono, 2010). Extraction sum of squared loadings can indicate how large of the formed factor group tells the existing factor variance. According to the extraction sums of squared loadings, it is known that deposits value is the most dominant factor group for determining deposits investment decision making in Bank NTB of Pejangik Principle Branches since having percentage of variance by 40.71%, this factor group consists of deposits interest, deposits cost, a feeling of satisfaction, budget allocation, self control and overestimate.

This research uses fourteen factors consisted of deposits interest, deposits gain, deposits cost, a feeling of disappointment, a feeling of satisfaction or level of satisfaction, budget allocation, self-control, net interest income, a belief in net interest income, overestimate and underestimate. Those fourteen factors form four-factor groups i.e deposit cost factor group, a belief on net interest income factor group, good companies factor group and deposit gain factor group.

Deposits cost is a factor group in which the factor within is from mental accounting variable, loss aversion, self-control and overestimate. While the factor group of a belief in net interest income has a factor from the variable of anchoring and overconfidence. Good companies' internal factor is from regret aversion variable. The last factor group formed is deposit benefits consisting of a factor from the variable of mental accounting and loss aversion. According to that factor group formation, it is seen that every factor from each variable used enters into the factor group determining the deposit investment decision making. It means that mental accounting, loss aversion, regret aversion, self-control, anchoring, and overconfidence are considered to determine deposit investment decision. The prior study conducted by Anastasia and Sumtoro (2015) also indicates the same result in which the variable consisted of regret aversion, loss aversion, and mental accounting determine the investment decision making. The same result is also proposed by Riaz and Iqbal (2015), in which the result shows that overconfidence and self-control have a positive influence on investor decision making. It means that variable and factors within determine the investment decision making. Ranjbar et.al, (2014) through his research also reveals that anchoring and overconfidence have a positive influence on investment so that can decide investment decision making.

A dominant factor group of this research is deposit cost factor while the factor is deposit interest, deposits cost, a feeling of satisfaction, budget allocation, self-control and overestimate. This analysis result can be seen in the table of the analysis result of extraction sums of squared loadings at variance part, in which the dominant factors are included in the factor of deposits cost with the percentage of 40.717%. Mental accounting is assumed to place the money into a particular group based on the purpose and considering cost and benefits (Nofsinger, 2005). The same result is also obtained by Anastasia et al., (2015) in which mental accounting is one of the variables in behavioral finance determining the investment decision making. A feeling of satisfaction is a factor from loss aversion variable, which means loss aversion variable includes the dominant factor group to determine deposit investment decision. As in Ranjbar's et al., (2014) research which gets a result that loss aversion is positively a natural behavior owned by an investor, so that loss aversion variable is one of the variables determining investment decision making. Budget allocation and self-control factor are factors coming from self-control variable. These two factors determine depositor in investment decision making in Bank NTB of Pejangik Principle Branches and include in the factor group of deposits cost. Dewi (2004) proposed that self-control is defined as how strength someone to hold his/her value and belief as a reference to behave or make a decision. Riaz and Iqbal (2015) also state that-self control has a positive influence on investment decision making, which means the factors in form of budget allocation and self-control also have a positive influence on investment decision making, while overestimate is a factor from overconfidence variable.

It means that overconfidence is a variable including in the deposits cost factor group, which is a dominant factor group determining investment decision making in Bank NTB of Pejangik Principle Branches. Overestimate is a condition in which depositor feels having much more other information, so that causes him to feel having the policy to make the best decision. Overconfidence can direct into overestimating characteristic (Nofsinger, 2005). The same result was also found by Kartini and Nugraha (2015), in which overconfidence has a positive influence on investment decision making.

This research forms the second-factor group, which is factor group of a belief in net interest income. Factor group of belief in net interest income is consisted of net interest income factor, a belief in net interest income, and underestimate. Net deposits interest income and a belief in net interest income are factors from anchoring variable which also

determine deposits investment decision, even though the related factor is not the dominant ones. Like a study conducted by Saraswati (2015) indicating that anchoring has a positive influence on investment decision making.

The third-factor group formed is good companies factor group, consisted of worries factor, reluctances, and good companies. These factors are from regret aversion variable which includes the factor group determining investment deposits decision making in Bank NTB of Pejangik principles Branches, even though it is not included in the dominant factor. This is also in relation to what proposed by Zelenbarg et al., (1996) which means that regret aversion is an essential motivation in several processes of investment decision-making stage.

Deposit gain is the fourth-factor group formed. Deposit benefits factor group consists of deposit benefits factor and a feeling of disappointment belief. These two factors are from mental accounting variable and loss aversion.

CONCLUSION AND SUGGESTIONS

According to the research result, it concludes:

Factors a determining investment deposits decision making are deposits interest, deposits gain, deposits cost, a feeling of disappointment, a feeling of satisfaction and level of satisfaction, worries, reluctances, good companies, budget allocation, self-control, net interest income, belief on net interest income, overestimate and underestimate. According to the factor analysis that has been conducted, so these factors are formed into four-factor groups i.e. deposits cost factor group, factor group of belief in net interest income, factor group of good companies and factor group of deposit benefits.

The most dominant factors are deposits cost, deposits interest, a feeling of satisfaction or level of satisfaction, budget allocation, self-control and overestimate. These factors include the factor group of deposits cost

The followings are the suggestions which can be done according to the research from several interest sides, among other:

Practice interest means in the effort of increasing the amount of deposit ration of Bank NTB of Pejangik Principle Branches, especially retail deposit, the policyholder is suggested to pay attention factors determining investment decision making by deposit customers, especially retail deposit customer and is not only from promotion side or continuing old customers. Those factors are deposits interest, deposits cost, a feeling of disappointment, a feeling of satisfaction or level of satisfaction, worries, reluctances, good companies, budget allocation, self-control, belief on net interest income and overestimate. In addition is customer loyalty, especially old deposit customers and priority customer should be paid attention to more draw attention and increase total deposit ration placed in Bank NTB of Pejangik Principle Branches.

Theoretical interest means this research uses several variables from behavioral finance, among other mental accounting, regret aversion, loss aversion, self-control, anchoring and overconfidence and there are also fourteen factors included within to use in this research.

For further researchers who want to conduct a study on behavioral finance can use variables and factor included within. In addition, the researchers also can find much more subject with different company field and use variable which different to what used in this research.

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ISSUES AND CHALLENGES FOR DEVELOPING CORPORATE SUKUK: LESSONS FROM AN INDONESIAN CASE STUDY

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ABSTRACT

This research is trying to find the issues, challenges, and strategies development of corporate sukuk in Indonesia. This objective arises because the level of supply and demand for corporate sukuk in Indonesia is still prolonged. This case in Indonesia is almost similar to cases in some countries, especially in Asian countries that are making efforts to develop sukuk market. Based on the method of mapping and root problem analysis, this study found three problem structures inhibiting the growth rate of corporate sukuk in Indonesia. The first stage of the problem is a surface issue, namely: concerns of potential double taxation; lack of understanding from investors; lack of knowledge of the issuer; unparted investor base; less liquid in the secondary market; very complex publishing documents; the contract variation remains unclear. Seven issues of this first phase are caused by five sources of the second issue, namely: there is still the required information regarding the issuance of sukuk is asymmetric; unavailability of supporting profession; unavailability of supporting industries; costly issuance costs; complex sukuk structures. The third stage of the problem causes the first and second problems, also called the root of the slow growth of corporate sukuk in Indonesia, namely: low socialization and education and the limited human resources of capital market actors concerning sukuk. On the three structures of the problem, the proposed development strategy sukuk corporations in Indonesia consist of two priority suggestions, namely: increasing socialization and education on corporate sukuk and clarify rules on corporate sukuk, related to rules on supporting institutions, contract structure, human resources, and administration. This result can be a reference to create the right strategy to encourage the growth of corporate sukuk in the long term. This research is also beneficial as a pilot development of corporate sukuk in several countries with cases and characters that are almost similar to Indonesia.

KEY WORDS

Corporate sukuk, corporate growth, socialization, education, sukuk rules.

Sukuk is an Islamic security that is often translated as the obligation of sharia, namely the representation of asset value with sharia bonds, or also referred to as Islamic investment certificates (Saeed & Salah, 2014). Sukuk is also interpreted as a private bond as securities issued by sharia principles and concepts approved by the Shariah Advisory Board (Hanefah, Noguchi & Muda, 2013; Hosen, 2017). AAOFI (2015) describes sukuk as a certificate of equal value representing an integral part in the possession of a tangible asset, benefit or service, or the ownership of an asset of a particular project or investment activity, which occurs after receipt of the sukuk funds, closing of the reservation and the funds received are utilized in accordance with the objective issuance of sukuk. The majority of sharia in Indonesia, the Indonesian Council of Ulama through DSN (2004) defines sukuk as long-term security based on sharia principles issued to issuers of sharia bonds obliging issuers to pay revenues to sharia bondholders in the form of profit/ margin/fee and repay the bond fund at maturity.

Upon its characteristics or characteristics, sukuk has been in demand by a variety of capital market actors at the global level. In the last decade, the development of sukuk has grown very rapidly and is increasingly popular. The IIFM report (2017) states that total global sukuk emissions during 2016 reached USD 88.4 billion, representing an increase of 44% of total emissions in 2015 amounting to USD 61 billion. The rapid increase in volume during

2016 was influenced by stable emissions from Asia, the Gulf Region, and Africa. Of the two types of sukuk (state sukuk and corporate sukuk), whose rate of growth is very fast at the global level is a type of corporate sukuk. The countries with the highest rates of sukuk issuance on a global basis are Malaysia, Saudi Arabia, Bahrain, Indonesia, Brunei, UAE, Qatar, and Turkey (IIFM, 2017).

Although corporate sukuk at the global level has a rapid growth rate compared to the state sukuk type but its development in Indonesia is still very slow. According to the data of Islamic Capital Market (2018), the number of outstanding sukuk in Indonesia in 2017 recorded as many as 60 series, with its value of Rp. 14.31 trillion. Compare with the type of sukuk country where the outstanding is only 53 series but with a value of Rp. 485.44 trillion. This figure shows that the development of corporate sukuk in Indonesia is still not optimal. The case of slow growth sukuk corporations in Indonesia indicates that there is a wide range of problems attached to the sukuk corporate type. Given the importance of the role of sukuk for economic funding, then overcoming the problem of the slow rate of growth of sukuk, especially the type of corporate sukuk becomes very important to do.

Based on the above background, the purpose of this study is divided into two, namely: (i) first is to map the issues and challenges for the implementation of the development of corporate sukuk in Indonesia; and (ii) the second is to formulate a corporate sukuk development strategy in Indonesia. Both of these objectives are important to be answered in order to contribute to empirical studies and their contribution to the literature, particularly with regard to issues embedded in corporate sukuk and its development strategies.

To answer two goals research, the systematics of writing in this study is divided into six stages. First is the background, the two will be explained about the theoretical base, the third is the conceptual framework, the fourth is the research method, the fifth is the discussion, and the sixth is the conclusion and suggestion. The sixth systematics is a unity that serves a comprehensive and structured analysis.

LITERATURE REVIEW

Why at Global Level Corporate Sukuk Have Rapid Growth Rates? The rapid growth of corporate sukuk at the global level indicates that corporate sukuk is an instrument that has several advantages. Theoretically, this excellence corporate sukuk is included in the realm of sukuk excellence in general. AAOFI (2015) try to trace the sukuk superiority of its structure, sukuk is basically a certificate of the same value as the number of shares not divided into the ownership of a set, the material and the tangible service, or as a particular project or special investment activity but is valid after receiving the value sukuk, subscription closing and use of funds received for the purpose of issuance of the sukuk. This explanation is enriched by the opinion of Rusydiana (2012), that sukuk is a certificate of equal value representing a share of total ownership of tangible assets, benefits and services, asset ownership of a project, or ownership in a business activity or special investment. Some of the characteristics of this sukuk have driven the rate of supply and demand for sukuk growing rapidly in the global level, especially corporate sukuk, where the average per year grows more than 30 percent (Zin et al., 2011). The rapid growth of corporate sukuk at the global level is supported by the performance of the company as the issuer is considered to perform very well and trusted by the public who plays as investors.

According to Afshar (2013), sukuk (especially the corporate sukuk type of an honest issuer) for investors is very profitable because of the right to certain ownership because sukuk is an instrument asset-based. According to Saeed & Salah (2014), sukuk is very profitable because of its equity-based characteristics, in contrast to debt bonds. The opinion of Saeed & Salah is supported by Samaoui & Nechi (2017), that sukuk excellence lies in the absence of a debt base since sukuk is issued on the basis of Islamic moral or jurisprudence (*fiqh*) or principled economic activity in Islamic law (*fiqh al-mu'amalat*). Sukuk based terminology *ih fi q* is the object of the contract of sale or lease and other forms in accordance with the contract made (Afif, 2014). A study from Hanefah, Noguchi & Muda (2013) found that the issuance of sukuk in each country must be guaranteed by each Sharia Council which

is in charge of controlling and ensuring the sukuk's compliance with sharia guidelines in each country concerned. It aims to enable a number of capital market participants in order to raise capital in a consistent manner with Sharia principles.

The superiority of sukuk versus conventional bonds basically lies in its idealistic condition which puts more emphasis on morale and profit by avoiding transactions prohibited in Islamic jurisprudence (Saeed & Salah, 2014). The existence of the advantages of moral and profitability aspects on the Sukuk much proved that sukuk profit is more profitable than conventional bonds. Another explanation is also conveyed by Dewi (2011), which states that the sukuk advantages compared to other convention bonds lies in its structure that is based on real assets. The sukuk holder is entitled to the share of income generated from the sukuk assets in addition to the rights of the sale of the sukuk assets. Research from Smaoui & Nechi (2017) proves that sukuk is indeed more promising in the rate of return and financial security greater than conventional bonds. This finding is supported by research results from Zin et.al (2011), that sukuk has a number of objectives that enable market participants to raise capital in a consistent manner t with sharia principles while at the same time expanding the investor base and offering wider investment opportunities. According to Hanefah, Noguchi & Young (2013), sukuk are very open and beneficial for all market participants and investors regardless of background, beliefs, and religion respectively.

Do Risks Attached to Sukuk Influence Significantly on Low Level of Supply and Demand? Although sukuk has several advantages, it also has some risks that are similar to the conventional bond risks. Theoretically, the risks inherent in sukuk are basically divided into two sides, namely from the *supply* side and from the demand side. From the *supply* side is the risks that arise because it is more caused by issues inherent to issuers and regulations associated with the issuance of sukuk. While the demand side is the risks that arise because more caused by investor concerns. This is supported by a statement from Jarkasih & Rusydiana (2011), that parties who play a direct role in the growth of sukuk can be divided into two sides, namely the *supply* and demand side. From the *supply* side, several parties involved are publicly listed companies/issuers as sukuk issuers and underwriters as parties working with publicly-listed companies/issuers in sukuk offerings. Meanwhile, from the side of demand, the parties involved are investors, both individual investors, and institutions (institutions).

Decisions from the *supply* and demand sides can be an obstacle to the growth rate of sukuk due to the inherent limitations of sukuk, both internal and external. Some of the limitations are: (i) lack of application related to structural innovation; (ii) there is still a need for understanding from market participants because the socialization of sukuk is still lacking; (iii) the low level of government commitment due to regulatory aspects remains unclear; (iv) the legal framework remains minimal; (v) lack of support of human resources who understand or expert in the field of sharia capital markets; and (vi) there are still diverse challenges such as liquidity risk, asymmetric information, covenant and sukuk structure, and underlying principle. In addition to these six limitations, the sukuk may also risk generating a default.

Ahmad, Daud & Kefeli (2012) argued that the development of sukuk is strongly influenced by some of the risks attached to sukuk, which also significantly influence the decisions of issuers and investors to choose sukuk. Based on the results of research from Endri (2007), some sukuk risks can be interpreted as issues still attached to sukuk, such as low socialization to investors, opportunity cost, and liquidity aspect, to less favorable regulations or legislation. The research result of this Endri temua n reinforced by the results of the Goddess (2011), that the slow rate of growth of the sukuk, in particular, the type of corporation more due to regulatory factors and market conditions are less stable. According to the research of Haron & Ibrahim (2012), the condition of the less supportive environment is very influential significantly against the incentives of firms in issuing and buying corporate sukuk.

The explanation above confirms that the risks inherent in sukuk have a significant effect on the *supply* and demand levels. However, sukuk still believed to be safer than conventional bonds, because theoretically, character sukuk is to transfer ownership of the

underlying asset to the holder, which in turn will gain an upper Protects the asset ownership (Zakaria, Isa & Abidin, 2012).

CONCEPTUAL FRAMEWORK

The conceptual framework in this study is based on the fact that the slow rate of growth of corporate sukuk in Indonesia is still slow. This condition is inversely proportional to the growth rate of corporate sukuk at a global level which is more dominant than the growth rate of sukuk country. Based on theoretical studies, the growth rate of sukuk, both corporate and sukuk countries basically it still faces some constraints, especially from the risks that are still attached to sukuk, both from the content of the supply and demand.



Figure 1 – Conceptual Framework

From the supply side, several parties involved are issuers and underwriters, while in terms of demand are investors. On the issue of sukuk both in terms of supply and demand, then both sides will be parsed issues and challenges. Therefore, it is necessary to find a way out from both supply and demand side so that the growth rate of corporate sukuk can run optimally. This strategy is expected to be proliferation as well as a reference to comparative studies for the development of corporate sukuk in countries with characteristics similar to Indonesia.

METHODS OF RESEARCH

This research used qualitative technique of mapping (*mapping research*) and root cause analysis (*root cause analysis*). Qualitative approaches are considered to be best suited for being able to find, explore, describe, and explore field issues for identification and evaluation purposes. Qualitative exploration in this research is done through in-depth interviews (*depth interview*) with the characteristics of cross-checking, confirming, deepening, and triangulation are carried out continuously until the data becomes saturated. Data saturation levels continue to be made in order to ensure that the excavated data is completely valid. The in-depth interviews undertaken in this study were approached with the concept criterion-based selection, namely selecting informants through the assessment of competence and its capabilities that really meet the criteria to be used as informants in digging the research data. Details in conducting research methods are as follows:

Characteristics of Informants. Total informants in this study are not based on minimum quota because this research is qualitative. In qualitative research, there is no limit or the minimum number of informants, but the existing informants must meet the qualification standards representative of the case under study. Of the total informants obtained, they can be divided into 8 categories of informants, namely: (i) investors who are new sukuk or less than 2 years plunge in the market sukuk ; (ii) sukuk investors who have long been the perpetrators of sukuk; (iii) the issuer has issued sukuk; (iv) issuers that have not issued sukuk; (v) the Financial Services Authority; (v i) and Financing Risk Management Directorate, Ministry of Finance; (vii) Underwriter; and (viii) Directorate General of Taxes of the Ministry of Finance.

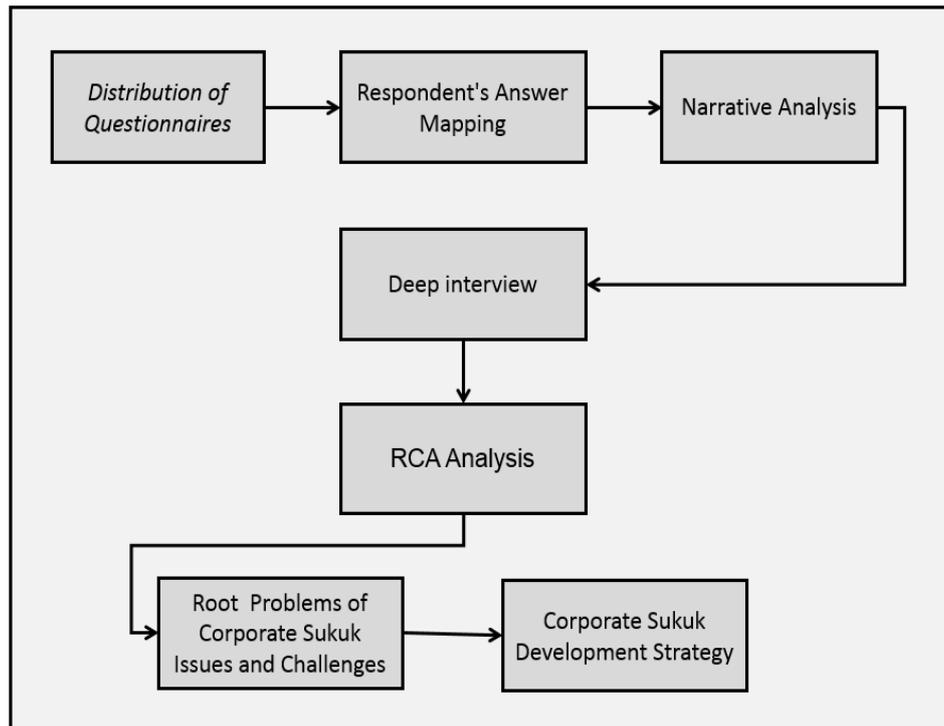


Figure 2 – Flow of Research Methods

How to Dig Data. After determining the criteria of informants, the researcher then spread the questionnaires to each informant. After the questionnaire was answered by each informant, then the informant will then return the questionnaire to the researcher along with the result of the answer. Researchers then sort out the answers of informants by using the mapping system (*mapping research*). This mapping is very necessary considering the answers of various informants with irregular patterns (random). Components performed in mapping activities includes 3 (three) stages, namely: (i) data reduction; (ii) presentation of data; and (iii) conclusions. The first is data reduction, the process of selecting and focusing the research through a rigorous selection of the focus that will be studied further. The second stage is the presentation of data, namely the process of organizing information systematically in order to obtain conclusions as research findings. While the third stage is the conclusion of the mapping results, which are drawn during data collection, but nature is still tentative so it is necessary to continue to verify the data, especially further discussion with each informant. To deepen the results mapping, then the next step is to do an in-depth interview (*in-depth interview*) in order to *cross-check* and experience information from each informant.

Analysis Method. To analyze the results of the field, then used *Root Cause Analysis* or RCA. RCA definition is a method to find the root of the problem of the issues inherent in the sukuk corporations, both in terms of supply and demand. RCA analysis seeks code between the narrative so you can find the root of the problem or a "major factor" growth inhibiting the

rate of corporate sukuk in Indonesia. The RCA system in this study was prepared based on causal analysis to find the "main factor" of the problem of the growth rate of corporate sukuk in Indonesia. Technically, RCA in this research is done with 7 (seven) stages, namely: (i) identifying the main problem faced by market players in relation to activities related to corporate sukuk; (ii) identify the factors causing the problem; (iii) categorize causes and identify cause levels; (iv) identify the cause of the drivers of the problem; (v) determine the expectations to be addressed to address the problem; (vi) prioritize the causes of the most pressing issues; and (vii) prioritize the most effective and realistic expectations to achieve. From all the flow of the research method, it can be illustrated as in Figure 2.

RESULTS AND DISCUSSION

Based on the questionnaires were followed up by in-depth interviews (in-depth interviews), found a variety of responses from the informant who later filtered based on the priority of the answer (sequence) given by the informant. This filter is presented in Table 0 1. After screening based on mapping analysis, it is found that the problem of the slow growth rate of corporate sukuk in Indonesia is caused by 3 sides, namely regulation side, supply side and demand side. This finding adds to the results of previous research which mentions that the factors inhibiting the growth of corporate sukuk only focused on the supply and demand side.

Table 1 maps that each of the informants has responded in the highest order. Most answers are given by categories of investor informants, followed by securities underwriters, issuers, issuers, and the tax office. Of the three sides, the domains revealed by informant most are the supply side of 8 answers, followed by the regulation side of 7 answers, and the demand side as many as 4 answers. This mapping indicates that the problems inhibiting the growth rate of corporate sukuk in Indonesia are dominated by the supply side. This mapping results support the findings from Dewi (2011), which the obstacle to the development of corporate sukuk issues in Indonesia is caused by a problem issuer (the supply side).

Based on Table 01, issues and challenges from the supply side can be mapped to 8 p. Based on in-depth interviews, 8 of these issues and challenges can be simplified into 3 major issues, namely: (i) still lack understanding of the issuers to the characteristics of sukuk; (ii) there are still limited human resources of capital market players; and (iii) still not mapped the investor base. These three issues already represent 12 issues and challenges from the supply side as listed in Table 1.

Lack of knowledge and Understanding of Issuers Against Sukuk. The average informant gave an answer that the issuers have not really understood the characteristics of sukuk so that the company has not intended to issue sukuk. This finding is in accordance with the results of research by Jarkasih & Rusydiana (2009) that the lack of knowledge and understanding of issuers is still a major problem in issuing sukuk corporations in Indonesia. Bapepam (2012) and Kurniawati (2015) also found that one of the factors inhibiting the lack of corporate sukuk issuance due to lack of the issuer's knowledge of the sukuk.

When referring to the results of Dewi's research (2011), the lack of understanding of issuers in principle can be mapped into two issues, namely: (i) the issue of lack of understanding, namely the lack of understanding of issuers concerning sukuk; and (ii) averse to risk issues, i.e. for companies that have never issued, sukuk is a new instrument so it takes special consideration. Abdo (2014) found that the average issuers are still reluctant to seek to understand sukuk because the opportunity cost incurred is still too high. While Afshar (2013) proves that the average issuers are still very careful to issue sukuk because they have not really understood the potential demand for sukuk is actually very high. While Siskawati (2010) states the limited issuance of sukuk due to the issuer's lack of understanding not only in terms of the number of issuances, but also the variation of tenor and type of contract. In addition, issuers are also very limited to know all the information about the sukuk trading corporation in the secondary market.

Table 1 – Mapping Results (Mapping) Answer Informant Factors inhibiting the rate of Corporate Sukuk Growth

| No | Category of Informant | Answer with Highest Score | Problems of the Supply Side | Problems of the Demand Side | Problem of Regulation Side |
|----|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Investor | <p>Not knowing about sukuk as the complement of conventional obligation yet.</p> <p>The Availability of information on sharia capital market is still limited</p> <p>Limited liquidity in the secondary market</p> <p>The regulations on sukuk remain unclear</p> <p>Lack of socialization and education about the contracts to investors</p> <p>Lack of socialization and education about the contracts to investors</p> <p>Low contract and diversity of sharia products</p> <p>Treatment of taxation on sukuk is still unclear</p> | <p>Lack of socialization and education about the contracts to investors</p> <p>The existence of cost of funds</p> <p>Variations in the contract and sukuk structure are limited</p> <p>Related costs of issuance of sukuk</p> <p>Unavailability of supporting profession</p> <p>The narrowness of information disclosure is still required related to the issuance of sukuk</p> <p>VAT imposition constraints on the transfer of beneficial rights to underlying assets</p> <p>Not optimal socialization and education about the contracts to the issuer</p> | <p>The majority of investors do not know about the sukuk as a complement of conventional bonds</p> <p>Limited liquidity in the secondary market</p> <p>Low market in absorbing sukuk</p> <p>The low level of contract and diversity of sharia products</p> | <p>Availability of information on sharia capital market is still limited</p> <p>The accounting standards of governing sukuk is still weak</p> <p>The regulations on sukuk remain unclear</p> <p>The tax treatment of sukuk is still unclear;</p> <p>The absence of supporting industries</p> <p>The condition of the domestic Islamic finance industry has not developed rapidly and has not been support to issue sukuk</p> <p>The complexity of sukuk issuance documentation</p> |
| 2 | Emiten | <p>Cost of funds (rewards to investors)</p> <p>The absence of other supporting industries such as tafakul, sharia mutual funds, multi finance sharia and others</p> <p>The tax treatment of sukuk is still unclear</p> <p>The tax treatment of sukuk is still unclear</p> | | | |
| 3 | Prospective Issuers | <p>Related costs of issuance of sukuk</p> <p>The condition of domestic Islamic finance industry has not developed rapidly and has not been supporting to issue sukuk</p> <p>The absence of competent capital market support profession in the field of Sharia capital market</p> <p>The tax treatment of sukuk is still unclear</p> | | | |
| 4 | Underwriter | <p>The liquidity of transactions in the secondary market is still limited</p> <p>Potential low market in absorbing sukuk</p> <p>The investor base on certain contracts is not yet mapped</p> <p>The tax treatment of sukuk is still unclear</p> <p>The unclear rules of OJK governing the issuance of sukuk</p> <p>The complexity of sukuk issuance documentation</p> <p>The narrowness of required information disclosure related to the issuance of sukuk</p> | | | |
| 5 | Directorate General of Taxation | <p>VAT imposition constraint on transfer of beneficial rights over underlying assets</p> <p>Not optimal socialization and education about sukuk contract</p> <p>Unclear accounting standards governing sukuk</p> | | | |

Source: Primary Data Processing, 2017.

Ascarya (2010) argued that the lack of understanding of issuers is not solely from the corporation's lack of availability of human resources who understand about the Sharia capital market, but also due to limited trading instruments. According to Kurniawati (2015), this issue becomes a determinant factor as an obstacle to the development of the Sharia capital market in Indonesia. But uniquely, the investigation of Saad, Mamat & Mohamad (2014) who conducted a study in Malaysia found that the knowledge of issuers coming from state enterprises (SOEs) is better than private companies. The results of the research by Smaoui & Nechi (2017) also reveal that the ignorance of prospective issuers against sukuk makes them look for short-term securities, which is actually less in line with the balance sheet side of the company. Whereas according to Zakaria, Isa & Abidin (2012), symmetrical sukuk market information is needed by issuers in order to encourage efficient and indispensable resource allocation for the growth of the financial sector. This finding may be a lesson of the importance of socialization and education of the private issuers.

There are still limitations of human resources of the Capital Market participants. Several informants mentioned that the slow rate of growth of sukuk is due to the limited human resources of capital market players. These findings may complement the results of OJK (2015) research that the majority of issuers who have not issued sukuk claim to know about sukuk but are less well understood, especially related to underlying assets, contracts or structures that can be used on sukuk due to human resource limitations. OJK (2015) also mentioned that the issuer's lack of understanding is caused by the lack of human resources who understand or expert in the sharia capital market. So far, the issuer's HR is still the category of expert actors in the field of conventional capital market. This problem becomes risky, given the availability of human resources who understand the Sharia capital market is very important to determine the issuer's decision in dabbling in the market sukuk (Purwaningsih, 2013).

Hosen's finding (2016) explains that the ignorance of the sukuk market participants against the sukuk itself is very risky to distort the market information sukuk so it can be very asymmetric (asymmetric information). This makes the sukuk instrument on the surface is in accordance with the principles of sharia but essentially still not because it is still below standard. The limited human resources of market participants to sukuk are criticized by Zulkhibri (2015) for making sukuk practice able to imitate the practice of conventional instruments. In addition, sukuk pacts can also become less transparent with regard to documentation and rights and obligations of various parties in the sukuk market. Therefore, we need more knowledge of competent human resources for some sukuk structures require complex knowledge level. This statement is reinforced by the results of the study of Ahmad, Daud & Kefelia (2012), which finds that low human resources of sukuk market participants can reduce the participation of many investors who are accustomed to face with conventional bond products that are well ordered.

Research of Haron and Ibrahim (2012) states that the conditions at the global level are already very possible because of the availability of competent human resources in the field of securities, so it can create a lot of companies to enrich its capital structure and attracting investors to the sukuk. According to Fatah (2011), the condition at the global level is inversely proportional to Indonesia, because in the country the quality of human resources is still low. These findings are reinforced by Kayo & Kimura (2011), that the development of corporate sukuk in a country is not only influenced by the capital structure or financing decisions of a company, but more determined by the HR factor of the perpetrators. This is exemplified by the discovery of Sole (2008), which the rapid growth rate of corporate sukuk in the Gulf countries is strongly influenced by the business environment and human resources are good and specialized.

Base Investor is Still Not Available. Based on the results of the mapping, the informants stated that there is still a problem of the unpublished investor base. These limitations make issuers reluctant to issue sukuk for fear quiet enthusiasts because the investor base is still unclear. In addition, it is also supported by a base mapping of the issue that has not been an investor in the contract-specific contract. Investor base that is not mapped is very influential because the issuer is taking no chances with the issuance of new instruments that prefer to

publish an existing contract. According to the FSA (2016), a database of investors is highly correlated to the level of sukuk deals that have a variety of contract respectively. Contracts very important in being a basis for the development of sukuk. For issuers, the investor base can provide information about the absorption capacity and the ability of the market (Saad, Mamat & Mohamad, 2014). the investor base that is not mapped according to Afshar (2013) is very risky so sukuk cannot be developed because of the potential local investors is actually very high, so this makes the external resources of sukuk enthusiasts are not allocated as efficiently.

Based on Table 1, issues and challenges of the *demand* can be mapped to 4 p. Based on analysis of in-depth interviews, four issues and challenges can be simplified into three major issues, namely: (i) lack of understanding of investors on the securities; (ii) the limited liquidity of sukuk in the secondary market; and (iii) the low variation of the contract and the structure of sukuk. The third issue is already representing 4 issues and challenges in terms of *demand* as listed in Table 01.

Investors are still lack of knowledge about Sukuk. The issue of inhibitors of the demand is more focused on several variables attached to the investor. The majority of investors have not been so understanding about corporate sukuk making the investor might not think to invest their money in sukuk instruments. The impact of the limited knowledge of these investors is the low level of demand for sukuk sharia capital market. According to Fatah (2011), the lack of knowledge of sukuk investors against a tendency of investors often compare the benefits offered by conventional bonds is actually very asymmetric. These results are enriched by the opinions Kurniawati (2015) that the limited demand for sukuk in the Islamic capital market due to public understanding is still so low that in fact, they are as a potential investor. This statement is reinforced by Afshar (2013), that the people who are interested in sukuk are actually very high because they really wanted a decent return at the same level in accordance with the principles of Sharia. Jarkasih & Rusydiana (2015) asserts that the lack of knowledge and understanding of the community has always been a major issue in nature of Islamic economic development, including in the Islamic capital market instruments such as sukuk , although the potential of its very big.

According to Saad, Mamat, and Mohammed (2014), the lack of community's knowledge towards sukuk is strongly influenced by the model of regulation, in particular, less comprehensive socialization. Whereas investor knowledge is needed to assist them in making judgments about the prospects of profits (Zakaria, Isa & Abidin, 2012). Some countries indicate that the bonds created a rating system is still very poor, so the impact on public ignorance of how to assess issuers prospectively. As in conventional bonds, investors who intend to invest in sukuk should also take into account the sukuk ratings (Jaffar, 2010). The issue of the lack of sukuk knowledge according to Sole (2008) contributed to the problem of the use of sukuk which have not easy because of the necessary process of adaptation to long associated the use of the principles of sharia. Another impact that can be generated is the low capital accumulation issuers, narrowing the investor base, and little opportunity for an investment offer to the public (Zin, et.al, 2011). Some of these conditions make sukuk as an instrument that is less competitive and less able to provide protection to the issuer due to the low level of demand due to the lack of knowledge of investors (Hosen, 2016).

Liquidity Bonds in the Secondary Market is Still Limited. The next problem that the informants complain about is the limited liquidity in the secondary market. For investors, the dominant factor that influences them to buy corporate sukuk is the sukuk liquidity. The results of the Abdo (2014) which is supported by Putri (2015) explains that sukuk still face the risk of the mixture and one resulting risk of the sharing arrangement is liquidity factor. According to Zulkhibri (2015), the issue of liquidity almost always happening even though the sukuk market has grown rapidly, one of the cause is due to the lack of standardization and concerns will be less protection for investors. The liquid sukuk indicates that the sukuk market is growing well, causing other companies to be interested in issuing sukuk, and vice versa (OJK, 2015). This is reinforced by Zaherr & Wijnbergen (2013) that low liquidity causes sukuk less desirable and difficult to develop. When the condition of the secondary market is

not liquid, the transaction becomes not much done. Investors tend to buy and hold due to the availability of relatively few sukuk instruments that are difficult to recover when needed (Dewi, 2011).

Tariq (2004) argues that the limited sukuk liquidity in the secondary market is a major constraint to the demand for sukuk, in addition to the issue of asymmetric information, underlying principle, sukuk structure, and competitiveness. Other than that, the low level of liquidity resulted in ownership transfer mechanism sukuk becomes inefficient. According to Zakaria, Isa & Abidin (2012) and Sole (2008), low liquidity can result in instability of financial institutions and make risk management sukuk becomes low. If low liquidity persists in the long run, it is risky to make sukuk always unattractive to market participants (Saad, Mamat & Mohamad, 2014). This statement is supported by the research results of Smaoui & Nechi (2007) by taking samples in the 42 countries that prove that lack of liquidity correlated positively and significantly associated with difficulty in the development of sukuk in the long term. According to Zin et.al (2011), the difficulty of the sukuk development has a high risk to make less competitive sukuk environment and make the financial system less stable.

Variation of Agreement and Sukuk Structure is Still Low. The last problem from the demand side is the low variation of contract and sukuk structure. This has an impact on the low level of demand as investors require more varied contracts and structures. The more variety of contracts and sukuk structures, it will provide a variety of options for investors who want to invest. The increasing variety of contracts and sukuk structures also adds investor confidence to the sukuk. But the current condition shows the narrowness of alternative investors in buying sukuk due to low contract variations. If the use of financial instruments (including the variation of contracts) is less developed, then the economic actors will increasingly increase their investment in sukuk (Kurniawati, 2015). The opinion of Kurniawati (2015) is also supported by the findings of Dewi (2011), that the current sukuk market is still covered by the limitations of the instrument, namely the small variation of the contract and the tenor. During this time the average issuance of sukuk still fixed on *ijarah* and *mudharabah* contract. This is supported by the findings from Jarkasih & Rusydiana (2011) that the issuance of corporate sukuk in Indonesia has been the new average using *mudharabah* and *ijara* contracts. According to Fatimatuzzahra (2014), the limitations of the contract will be evaluated repeatedly by the investors. Limitations of the contract are valued as the risk of sukuk contained in the issuance of sukuk so that investors anticipate the issuance of sukuk and assume that the issuance of sukuk does not add value to the company.

The results of Abdoo (2014) found that cases in some countries with slow sustained growth rates have indicated the occurrence of sukuk risk due to homogeneous structures and contracts. This opinion is reinforced by Zaheer & Wijnbergen (2013), that the sukuk face a mixture of risk and risk-sharing arrangements for the use of Islamic principles, liquidity, governance of law, and the variation of the contract. While research from Setyani & Endri (2013) conducted in Indonesia outlines that the risk of sukuk is determined by how big the capacity of an issuer in offering a variety of contracts to investors. If the company concerned has a variety of different contracts, then the risk of the low demand for sukuk will not be faced, and vice versa.

Based on Table 1, issues and challenges from the regulation side can be mapped to 7 p. Based on the analysis of in-depth interviews, the 7 issues and challenges can be simplified into 2 major issues, namely: (i) lack of information on Sharia capital markets; and (ii) regulations regarding securities that are still unclear. Both of these issues already represent 4 issues and challenges from the side of the regulation as listed in Table 01.

Availability of Information Concerning Sharia Capital Market is Still Lacking. Basically, many market participants lack understanding of Sharia capital market information, especially corporate sukuk. Based on the results of in-depth interviews, parties who often lack understanding about sukuk instruments is the investor. According to some investors as research informants, socialization and education about sukuk-contracts are still very limited, whereas sukuk is a Sharia capital market instrument that has various types of contracts. These findings support the results of a review conducted by Bapepam (2011), that the lack of

investor interest in investing in the capital market, including the effect of sharia due to lack of socialization related to the understanding of sukuk investment. Rusydiana (2012) argues that the emphasis on the lack of socialization is the lack of specific knowledge related to sharia capital markets, especially sukuk. According to Dewi (2011), market participants' ignorance about the characteristics of this sukuk is called as lack of knowledge, which is still a lack of knowledge owned by market participants.

Other information that has not been widely known is related to some risk of sukuk. Some of the average sukuk risks are not understood by market participants, such as the risk of returns, credit risk, exchange rate risk, price level risk, liquidity risk, and risk of sharia compliance. This is due to the low level of socialization and education compounded by the lack of supporting professions and supporting industries in the sukuk market which resulted in the sukuk market, especially corporate sukuk increasingly asymmetric. According to Fatimatuzzahra (2014), investors basically have not been familiar with the attributes attached to sukuk, such as contracts, profit sharing, and margin on sukuk. Whereas according to Huda & Nasution (2007), investors in conducting transactions in the capital market based its actions on various information obtained. According to Fatimatuzzahra (2014), so far sukuk still considered as a bond used by investors in financing short-term needs or finance the debt. According to Dewi (2011), market participants' ignorance about the risk of sukuk is referred to as lack of understanding, which is still a lack of understanding of market participants regarding sukuk.

The Regulations on Sukuk Still Unclear. Informants who declare that the regulation concerning sukuk still unclear majority come from emiten and investor. These issues include the lack of good governance of the sukuk market. Poor market governance demonstrated by the unavailability of capital market supporting professionals who are competent in the field of Islamic capital markets, and the lack of supporting industries such as tafakul, Islamic mutual funds, finance companies sharia and others. This finding reinforces the results of Dewi (2011) research, that the weakness of the sukuk market is one of them is the absence of professions and supporting institutions and the preparation of operational book guidance. Yet according to research Saad, Mamat & Mohamad (2014) in Malaysia, shows that the rapid growth rate of sukuk in the country is strongly influenced by innovation and good market governance. Malaysia has developed progressive sharia capital market regulation, pro investors and issuers with various incentives and innovative to ensure a stronger Islamic financial system.

In addition to market governance, the unclear sukuk regulations also relate to market conditions that are still very asymmetric. This condition affects the complexity of the document issuance of sukuk, because of the number of documents that must be prepared to face some risks that are not predictable (unpredictable). Regulators have not been able to arrange effective and efficient sukuk issuance documents. The high cost is due to the complexity of the documentation because it involves the agreement documents that must be made by notaries and legal consultants. There is a perception among issuers that the cost of issuance of sukuk is more expensive than the cost of issuing bonds. According to Utaminingsih (2008) and Fatimatuzzahra (2014), the complexity of sukuk documents makes market participants, especially issuers unable to achieve efficient financing. Meanwhile, according to Dewi (2011), the complexity of sukuk issuance documents makes investors tend to be conservative and prefer profit oriented and floating majority behavior, i.e. investors tend to consider profits without sharia principles.

The next finding that is still related to the complexity of the issuance of sukuk documents is the unclear standard of accounting governing sukuk. So far, the preparation of accounting standards has not provided clear and standard guidelines in accordance with the characteristics of sukuk as the effect of sharia. For example, *mudharabah* and *musyarakah* contracts do not require underlying assets, requiring different types of bookkeeping with sukuk contracts requiring underlying assets. Likewise, the absence of clear accounting standards has an impact on the difference of calculation for the result between the issuer and the investor. Unclear accounting standards have an impact on the poor estimation of benefits for market participants, for example, investors are difficult to predict profit, as well as for

issuers. In addition, the unclear accounting standards governing sukuk also contributed to the rating of sukuk that had never been done. The sukuk rating in its calculations is heavily influenced by accounting standards such as liquidity, leverage, profitability, productivity, size, and solvency (Purwaningsih, 2013).

The cause-effect analysis is an exploration of the results of the Root Cause Analysis (RCA) method. The result of root problem analysis is the set of various problem factors found based on mapping analysis, from *supply*, *demand*, and regulation. The set of problems from these three sides is then coupled and summarized based on cause and effect analysis between problem factors. The findings of root cause analysis that causing the slow growth of corporate sukuk in Indonesia are as follow in Table 2.

The cause-and-effect analysis as in Table 0 2 shows that the slow rate of growth of corporate sukuk in Indonesia can be dissected into three phases of the problem to conical to the root finding of the problem. Three phases of causation is and also the root of the problem can be described as follows:

The first stage problem is the findings as in Table 02 which are then reviewed in Table 03. From the supply side, the problems are mapped as 8 issues, the demand side 4 issues, and the regular side as many as 7 issues. Thus, the total problem of the slow growth rate of corporate sukuk in Indonesia is 19 problem.

The second stage of the problem is a more conical result of a total of 19 issues of slow growth in corporate sukuk in Indonesia. The results of this disarming resulted in 7 issues, namely: (i) concerns of potential double taxation; (ii) lack of understanding from investors; (iii) lack of understanding of the issuer; (iv) unparted investor base; (v) less liquid in the secondary market; (vi) very complex publishing documents; and (vii) the contract variation remains unclear.

The third stage of the problem is the causes of the second stage of the problem. When mapped, there are 5 issues that cause the second phase problem, the fifth is as follows:

The first problem is that there is still information about the requirements for the issuance of sukuk still asymmetric. This issue causes 3 issues, namely: (i) the existence of double tax concerns; (ii) lack of understanding from investors; and (iii) lack of containment from the issuer.

The second problem is the unavailability of supporting professions, and the third problem is the unavailability of supporting industries. Both of these issues cause two issues, namely: (i) unpaired investor base; and (ii) less liquid in the secondary market.

The fourth issue is the cost of an expensive publication, and the fifth issue is the complex sukuk structure. Both of these issues cause two issues, namely: (i) very complex publishing documents; and (ii) the variation of the contract is unclear.

The fourth stage problem is the final problem or the source of the problem, also called the root of the problem of the total 19 issues attached to the corporate sukuk in Indonesia. There are two root causes of sukuk growth rate in Indonesia, namely: (i) low socialization and education; and (ii) the limited human resources of capital market actors concerning sukuk.

Corporate Sukuk Development Strategy in Indonesia: Contribution to Literature. Nineteen issues of mapping analysis as in Table 1 and Table 2 are important findings which indicate that the sukuk market in Indonesia is failing to take advantage of domestic market potential and fail to capture global trends. The findings of this reinforces the results of the study of Fatah (2011), which suggests that although has potential and good prospects, the development of corporate sukuk in Indonesia is still very slow due to the problems inherent with market institutions Mapping the results in this study also reinforces what is stated by the OJK (2016), that the most prominent issue related to the development of sukuk in Indonesia is legal framework for the issuance of Islamic securities that is not strong yet.

The fundamental problem found in this study is the unclear sukuk regulations. According to Kurniawati (2015), it is necessary to formulate a standard of rules governing sukuk in order to provide clear and standard guidelines in accordance with the characteristics of sukuk as Sharia effect for both issuers and investors. According to Dewi (2011), still unclear regulation on sukuk is a reflection of still low Sharia capital market instruments.

Table 2 – Mapping Analysis of Causes of Slow Rate of Corporate Sukuk Growth in Indonesia

| Categories | Issues and Challenges of Sukuk Corporations in Indonesia | Issues That Become the Factors | Issues That Become Causative Factors | Issues That Become Root Problem |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| Supply Side | <ul style="list-style-type: none"> • There is still a lack of socialization and education regarding contracts to investors • Variations in the contract and sukuk structure are limited • The existence of cost of funds • Related costs of issuance of sukuk • Unavailability of supporting profession • The narrowness of information disclosure is still required related to the issuance of sukuk • Not optimal socialization and education about the contracts to the issuer • VAT imposition constraints on the transfer of beneficial rights to underlying assets 1. | Concerns of Double Tax Potential | Information Regarding Requirement for Issuing Still asymmetric Sukuk | Low Socialization and Education The Limited Human Resources of Capital Market Participants Regarding Sukuk |
| | | Lack of Understanding from Investors | | |
| | | Lack of Understanding from Issuers | | |
| Demand Side | <ul style="list-style-type: none"> • The majority of investors have not known about sukuk as a complement of conventional bonds • Limited liquidity in the secondary market • There is still a low market in absorbing sukuk • Still low contract and diversity of sharia products | Unmapped Base of Investor | Not yet Availability of Supporting Profession Not Available Supporting Industry | |
| | | Less Liquid in Secondary Market | | |
| Regulatory Side | <ul style="list-style-type: none"> • Availability of information on sharia capital market is still limited • The weakness of accounting standards governing sukuk • The regulations on sukuk remain unclear • The tax treatment of sukuk is still unclear • The absence of supporting industries • The condition of the domestic Islamic finance industry has not developed rapidly and has not been supportive to issue sukuk • The complexity of sukuk issuance documentation | Highly Complex Publishing Document | Expensive Issuance Costs Complex Sukuk Structure | |
| | | Variations of Agreement Still Unclear | | |

Source: Analysis Result, 2018.

Unclear regulations on sukuk have implications on several issues such as limited liquidity in the secondary market. Park and Rhee (2006) suggest the importance of the development of investors, including foreign investors in order to make the sukuk market becomes more liquid because different types of investors tend to adjust their portfolios in the same direction at the same time. In addition, opening up local financial markets for foreign investors will generate high pressure and be able to modernize market infrastructure and maintain a high standard of transparency. While Haron & Ibrahim (2012) suggest the importance of good governance as a strategy to ensure a liquid and dynamic sukuk market.

Unclear rules can also have implications for the low variety of contracts and sukuk structures. According to Smaoui & Nechi (2017), which varied sukuk structure is shown to have a positive impact on several things, including: (i) sukuk can mobilize savings and provide financing to the debtor in the long term, and is able to contribute to the efficient functioning of capital markets; (ii) the sukuk market is able to contribute to the deepening of financial markets; (iii) a well-developed sukuk market coupled with an advanced financial structure can stimulate economic growth through technological innovation and increase labor productivity in the private sector; (iv) sukuk certificates are based on risk sharing, which means that issuers and investors have investment risks and share profits or losses among them in accordance with the agreement. From some of the results of the study, the sukuk as a financial instrument indeed faced various types of risks, especially on the low variation of contract and sukuk structure that can be a potential inhibition for the growth of sukuk.

Another issue that is also important is investor base that has not been mapped. Therefore, according to Soemitra (2010), it is very important to do the restriction of investment zone and determine the type of financing agreement used in issuing sukuk. Based on the results of the questionnaire with the underwriters, the investor base is very important because it can open up the potential for sukuk absorption based on a wider investor network. According to Intana (2013), the development of investor base is very important in creating strategies to keep the market on an upward trend. Kurniawati (2015) recommends that the development of investor base needs to be done by establishing capital protection fund, Sharia capital market socialization and electronic arrangement of mutual fund securities. To obtain an optimal investor base, Sole (2008) suggests the importance of institutional investor diversity, including foreign investors. This can deepen the investor base of sukuk, modernize the sukuk market infrastructure, and be able to maintain a high standard of transparency.

Some of the above strategies are expected to have implications for the development of corporate sukuk in Indonesia. According to Zin et al (2011), the rapid development of sukuk is very important in transforming the now diversified economy by the encouraging private sector interest in sukuk. The advantage of the sukuk that triggered its rapid growth lies in its structure based on real assets (Ahmad, Daud & Kefeli, 2012). This advantage minimizes the possibility of a financing facility that exceeds the value of the underlying asset of a sukuk transaction. The sukuk holder is entitled to the share of income generated from the sukuk assets in addition to the rights of the sale of the sukuk assets (Dewi, 2011). Some of these advantages should be utilized by minimizing the problems attached to corporate sukuk.

CONCLUSION AND SUGGESTIONS

The problems inherent in the development of corporate sukuk in Indonesia can be mapped into three sides, namely:

Problems from the *supply* side, namely: (i) the lack of socialization and education about the contracts to investors; (ii) variation of the contract and the structure of sukuk is still limited; (iii) the existence of *cost of fund*; (iv) cost related to the issuance of sukuk; (v) supporting professions are not available; (vi) the narrowness of the required information disclosure related to the issue of *k tribe*; (vii) socialization and education on contracts that is not optimal to issuers; and (viii) problems in imposition of VAT on the transfer of beneficial rights to *underlying assets*.

The problems of *demand* side , namely: (i) the majority of investors have not known about sukuk as a complement of conventional bonds; (ii) liquidity in the secondary market is limited; (iii) still low market in absorbing sukuk; and (iv) the low level of contract and diversity of sharia products.

Issues from the regulation side, namely: (i) the availability of information on sharia capital market is still limited; (ii) accounting standards governing sukuk that is still weak; (iii) sukuk regulation is still unclear; (iv) taxation treatment on sukuk is still unclear; (v) supporting industries is not available; (vi) condition of domestic Islamic finance industry has not been growing rapidly and have support for issuing sukuk; and (vii) sukuk issuance documentation is still complex.

From the three classifications of sukuk development problems in Indonesia, the root of the problem can be divided into three phases. These three phases are at the root of the problem of sukuk growth inhibitor corporations in Indonesia. Each of the three phases is:

The issue the from first stage of *supply side* , a problem that is mapped as much as 8 issues, the *demand* 4 issues, and the regulatory side as much as 7 issue. Thus, the total problem of slow growth rate of corporate sukuk in Indonesia is 19 problem.

The second stage issues are: (i) concerns of potential double taxation; (ii) lack of understanding from investors; (iii) lack of understanding of the issuer; (iv) unparted investor base; (v) less liquid in the secondary market; (vi) very complex publishing documents; and (vii) the contract variation remains unclear.

The third stage of the problem is: (i) there is still information regarding the requirements of the issuance of sukuk still a symmetrical; (ii) professions has not been available; (iii) unavailability of supporting industries; (iv) costly issuance costs; (v) complex sukuk structures.

The fourth stage problem is the final problem or the source of the problem or also called the root of the problem , namely: (i) low socialization and education; and (ii) the limited human resources of capital market actors concerning sukuk.

Based on the explanation of mapping analysis and root problem analysis, the recommendations in this study refers to the explanation of the proposed development strategy, which consists of three priority suggestions, namely: (i) establish regulations on the supporting profession in the sukuk market; (ii) to make regulation of socialization and education on sukuk instruments; and (iii) providing supporting industries for the sukuk market. These three priority strategies can be executed through policy recommendations as follows:

Enhancing socialization and education on contracts of corporate sukuk.

Clarify the rules on corporate sukuk to reduce the complexity of sukuk issuance documentation and to enrich the variation of the contract and sukuk structure.

Establish the rules related to supporting institutions in sharia capital market and sharia securities companies.

Regulations related to sharia experts engaged in activities in the sukuk market. Therefore, sharia-related rules must be made in the capital market.

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ANALYSIS OF SUPPLY CHAIN NETWORKING MUNTOK WHITE PEPPER IN THE PROVINCE OF BANGKA BELITUNG ISLANDS

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ABSTRACT

This study aims to describe and analyze the supply chain of muntok white pepper in the province of Bangka Belitung Islands. Site selection is done purposively with consideration that South Bangka Regency is the center of production and main supplier of white pepper. The results show that there are three channels of pepper marketing: channel I - farmers sell to village-level collectors, then to district-level collectors, then the district traders sell to exporters; channel II - farmers sell to district-level collector merchants from subsequent districts directly to exporters; channel III - farmers sell directly to exporters. Farmer's share value obtained by farmers is 66.7%.

KEY WORDS

Supply chain, muntok white pepper, margin, farmer's share.

Bangka Belitung Islands Province is the largest white pepper producing center in Indonesia known as Muntok White Pepper. High international market demand and excellence of Muntok White Pepper taste, is an opportunity that must be managed and optimized, so that these opportunities can be optimally utilized. This has made the price of white pepper Bangka Belitung better when compared with the price of other pepper. The development of white pepper prices of Bangka Belitung and Vietnam in general still indicates price fluctuations during June to November 2015. The development of white pepper prices of Bangka Belitung, compared to the price of white pepper Vietnam in 2015 tend to both decrease, as shown in Figure 1.

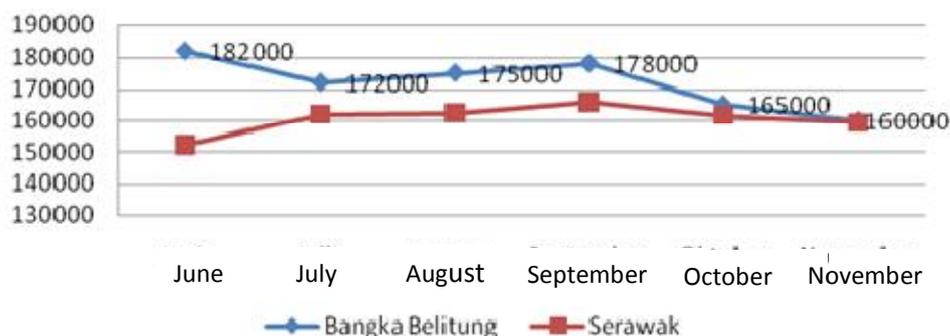


Figure 1 – White Pepper Price Trend June-November 2015 (Source: Association of Exporters of Indonesian Pepper Bangka Belitung, 2015)

White pepper in the province of Bangka Belitung Islands is produced in several districts/cities. The development of white pepper production per Regency/City in Bangka Belitung Islands Province is presented in Table 1

Table 1. shows that the largest white pepper producing district in the province of Bangka Belitung Islands, South Bangka Regency. The development of pepper production in 2010-2015 tended to fluctuate, and showed a decline in production in 2015. This is because the white pepper exploitation of Bangka Belitung is still faced with an interesting problem, especially in terms of marketing. This is certainly detrimental to the company, because the problem of inventory stability determines the quality of service, capital, and cost of the

company. This condition has significantly impacted the decline in the number of export companies in Bangka Belitung, leaving only 4 active export companies operating until 2016.

Table 1 – The Development of Pepper Production in the Regency / City of Bangka Belitung Islands Province in 2010-2015

| Regency / City | Papper Production (Ton) | | | | | |
|----------------|-------------------------|--------|--------|--------|--------|--------|
| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
| Bangka | 3 425 | 3 400 | 2 813 | 2 965 | 3 189 | 3 359 |
| Belitung | 4 027 | 7 241 | 5 255 | 5 124 | 5 341 | 4 213 |
| West Bangka | 1 876 | 1 943 | 6 167 | 4 644 | 4 345 | 4 413 |
| Central Bangka | 637 | 724 | 916 | 1 159 | 1 686 | 1 900 |
| South Bangka | 8 168 | 12 938 | 16 789 | 17 112 | 17 227 | 15 711 |
| East Belitung | 340 | 1 996 | 2 441 | 2 593 | 2 040 | 1 812 |
| Pangkalpinang | - | - | - | - | - | - |
| Amount | 18 472 | 28 242 | 34 379 | 33 596 | 33 828 | 31 408 |

Source: Agriculture, Plantation and Livestock Service Office of Bangka Belitung Islands Province (2016).

This problem also directly affects the farmers as producers, especially in determining the selling price of pepper at the farm level. Therefore, the study of mapping of supply chain system of pepper in Bangka Belitung is important to do.

Based on the background and problem formulation that has been described, the objectives compiled in this research is to describe the supply chain system of white pepper muntok and analyze the performance of muntok white pepper supply chain in the province of Bangka Belitung Islands.

METHODS OF RESEARCH

This research was conducted in Bangka Belitung Islands Province, by choosing South Bangka Regency as the location of sample selection of respondents (farmers as producers). Site selection is purposive with consideration that South Bangka Regency is the main production area and main supplier of white pepper for both domestic consumption and export requirement, so it is considered to provide supply chain information and enable data collection as needed. This research was conducted from July 2017 until September 2017.

Determination of sample of farmer respondents is done by purposive sampling that is white pepper farmer that completely consist of cultivation and sale of white pepper, counted 25 farmers. Furthermore, the sample determination of respondents of supply chain is done by snowball sampling method, that is by tracing the flow of white pepper supply chain according to the research boundary, the total of the respondent of merchant in this research is 6 people. Details of white pepper supply chain traders and collecting traders at 5 districts / sub-districts, and exporting companies 1. The total sample size of the sample is 31 respondents.

Methods Data analysis used descriptive analysis method quantitative and qualitative. Qualitative descriptive is used to describe a white pepper supply chain system with a supply chain development method that follows the supply chain networking (SCN) of Lambert and Cooper and then modified by Van der Vorst (Vorst 2008). Each section within the framework is analyzed descriptively in the form of five SCN frameworks: supply chain objectives, supply chain structure, supply chain management, supply chain resources, supply chain business processes. Then quantitative descriptive is used to analyze the performance of supply chain that is seen from marketing margin and farmer's share.

RESULTS AND DISCUSSION

The agricultural sector is the leading sector and the priority of regional development in South Bangka Regency. The main commodities of its plantation subsector are white pepper, rubber, palm oil and coconut. Pepper is the pepper producing district with the highest total production compared to other districts in the province of bangka belitung. According to

Bangka Pos, 2017: South Bangka Regency is the center of producing two thirds of pepper in the province of Bangka Belitung, the majority of the people's gardens involving approximately 57,000 farm families.

Information on the level of education that has been passed by pepper farmers in South Bangka Regency and the perpetrators of marketing in this study refers to the level of formal education, namely schooling education starting from primary school to college (PT). Detailed information on the level of education of respondents can be seen in Table 2.

Table 2 – Distribution of Respondents Education Level

| Respondents | Education Level | | | |
|----------------------------|-----------------|-----|-----|----|
| | SD | SMP | SMA | PT |
| Pepper Farmer | 14 | 6 | 5 | |
| Village Collectors | 3 | | | |
| District Collector Traders | | 2 | | |
| Great Traders (export) | | | 1 | |

Source: Prepare primary data 2017.

Based on the information in Table 2, Respondents generally obtain education from elementary school (SD) to college level. Regional, social, and economic factors of each respondent are the main reasons for the limitations in obtaining higher levels of education. Factors of limitations in science can affect the marketing system applied by farmers and gatherers.

According to BPS (2016), productive age ranges between 15-65 years, while non productive age is 1-14 years and above 65 years. Details of information on the age level of pepper farmers and their marketing actors are shown in Table 3.

Table 3 – Distribution of Age Level of Respondents

| Respondents | Productive age | Non-productive age |
|----------------------------|------------------------------|------------------------|
| | 12 -65 years old (people) | > 65 Years (people) |
| Pepper Farmer | 25 | - |
| Village Collectors | 3 | - |
| District Collector Traders | 2 | - |
| Great Traders (export) | 1 | - |

Source: Prepare primary data 2017.

The respondents' experience in conducting pepper farming activities is divided into three categories: first one to 10 years, second category 11 to 20 and third category over 20 years. The longer time farmers and middlemen spend in farming, the more they will know and experience in cultivation to harvest the white pepper.

Based on Table 4 it can be seen that the farmers have experience of white pepper farming about 1 - 10 years ie 13 farmers with percentage of 41.93% while the fewest farmers with experience of 11-20 years. And Experience owned merchant traders is the time range of 11-20 years. Havelock (1969) argues that one's experience affects his tendency to require and be ready for new knowledge.

Table 4 – Distribution of Respondent Experience in White Pepper Farming

| No | Length of farming (year) | Respondents | | | |
|----|--------------------------|-------------|------------|------------|-------|
| | | Farmer | Percentase | Collectors | % |
| 1 | 1 -10 | 13 | 41,93 | | |
| 2 | 11 - 20 | 6 | 19,35 | 5 | 16,13 |
| 3 | >20 | 7 | 22,58 | | |

Source: Prepared primary data, 2017.

White Pepper Supply Chain System:

1. Target Supply Chain:

White pepper market targets are generally intended for export markets. This is due to the productivity of the high pepper white pepper culture. Therefore, this supply chain has been marketing products to several countries abroad, such as countries in the Continent. There is a Grade in white pepper that is marketed so that the sorting process is complicated. The sorting process performed separates all other forms of white pepper themselves, such as: leaves, stems from whole grains of white pepper. This activity is done by all members of the supply chain.

2. Supply Chain Structure:

The structure of white pepper supply chain in South Bangka Regency is presented in Figure 2.

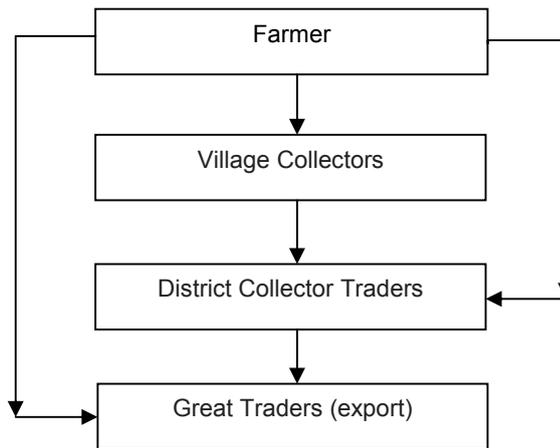


Figure 2 – White pepper supply chain structure in South Bangka Regency

Channel I: Farmers sell to village-level collectors, then to district-level merchant collectors which then district-level traders sell to exporters

Channel II: Farmers sell to district-level merchant collectors which then immediately sell to exporters

Channel III: Farmers sell directly to exporters

Based on interviews with AELI (Indonesian Pepper Export Association) almost 90 percent of Bangka Belitung pepper is exported to European, American and Asian countries. While 10 percent white pepper Bangka Belitung traded between regions (islands) or domestic.

1. Supply Chain Management:

Chain management is a joint planning, organizing, implementing and monitoring process undertaken in the white pepper supply chain. In this case, white pepper supply chain management is a contractual agreement and the transaction system has not gone well.

2. Supply Chain Resources:

The resources of each member of the supply chain play a role in the development of all members of the supply chain. In this case Resources that can be studied ie physical resources and capital is in accordance with the needs of the supply chain because these resources serve to improve the performance of the whole supply chain.

3. Supply Chain Business Process:

The business process chain reflects the processes that occur along the white pepper supply chain. The business process of white pepper supply chain is not smoothly between farmers to exporters because it is seen from the pattern of distribution.

The performance of the pepper supply chain in Bangka Belitung Province will be measured through marketing efficiency with marketing margin and farmer's share tools.

Table 5 – Margin and Function of Supply Chain Marketing of Marketing Institutions

| Marketing Institution | Channel 1 (Rp/kg) | Channel 2 (Rp/kg) | Channel 3 (Rp/kg) | Marketing Function | | |
|----------------------------|-------------------|-------------------|-------------------|--------------------------------------------------------|--------------------------------------|--------------------------------------------------------------------------------------------------------------|
| | | | | Exchange Function | Physical Function | Facility Function |
| Pepper farmers | | | | Sales function | Function storage | Function finance, Risk containment function |
| Selling price | 66.000 | 70.000 | 78.000 | | | |
| Village Collectors | | | | Purchase function, sales function, collection function | Function storage, transport function | Standardization function, Function finance, Risk containment function |
| Purchase price | 66.000 | | | | | |
| Selling price | 70.000 | | | | | |
| Margin | 3.000 | | | | | |
| District Collector Traders | | | | Purchase function, sales function, collection function | Function storage, transport function | Standardization function, Function finance, Risk containment function |
| Purchase price | 70.000 | 70.000 | | | | |
| Selling price | 78.000 | 78.000 | | | | |
| Margin | 8.000 | 8.000 | | | | |
| Export | | | | Purchase function, sales function, collection function | Function storage | Standardization function, Function finance, Risk containment function The function of market intelligence |
| Purchase price | 78.000 | 78.000 | 78.000 | | | |
| Selling price | 117.000 | 117.000 | 117.000 | | | |
| Marjin | 39.000 | 39.000 | 39.000 | | | |
| Total Margin | 50.000 | 47.000 | 39.000 | | | |

Source: Prepared primary data, 2017.

Farmer's share is a percentage of the selling price of pepper received by farmers against the selling price of pepper paid by the end consumer. Pepper selling price at the farm level of Rp. 66,000 per kg while the selling price of pepper paid by end consumers varies in each channel:

Farmer's share chain of supply channels 1 = 56,7%;

Farmer's share chain of supply channels 2 = 59,8%;

Farmer's share chain of supply channels 3 = 66,7%.

The value of farmer's share in the supply chain of pepper on channel 3 is 66.7 percent. The value of farmer's share is quite large as there are only two marketing institutions in this channel. From that value, it is evident that exporters want to make the farmers prosperous according to their business objectives. Judging from the overall value of farmer's share, there is a considerable share of farmer's share. This shows that the pepper supply chain is quite efficient. It is also supported from the results of marketing margin analysis. A large margin of marketing value leads to a small share of the farmer's share and makes the marketing of the pepper supply chain inefficient so as to make the price offered by the pepper supply chain not competitive yet.

CONCLUSION

Supply chain system muntok white pepper in Bangka Belitung Islands Province has a clear supply chain objective. Supply chain structure consists of white pepper farmers, village-level collectors, district and city collector traders and exporters, Implementation of chain management the supply has not gone well because the transaction system specified by the exporter is detrimental to the white pepper farmers themselves. The resources owned by the white pepper supply chain are in accordance with the supply chain requirements. The business process in the white pepper supply chain is poorly run due to the lack of financial and information flow smoothly between exporters to farmers.

The performance of the pepper supply chain is quite efficient overall as collecting merchants do not take too much profit in every marketing channel, visible from the margin

difference is still rational considering each marketing institution performs marketing functions. Farmer's share value obtained by farmers is 66.7%. This indicates that the pepper supply chain is quite efficient on channel 3.

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**ANALYSIS OF ORGANIZATIONAL CULTURE, COMPETENCE AND WORK
MOTIVATION: THE EFFECT ON SATISFACTION AND PERFORMANCE
OF GOVERNMENT EMPLOYEES OF PAREPARE**

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ABSTRACT

The purpose of this study is to analyze: the effect of organizational culture, competence, and motivation towards the satisfaction of local government employees of Parepare; the effect of organizational culture, competence, and motivation towards the performance of local government employees of Parepare; the effect of job satisfaction towards the performance of local government employees of Parepare. The population of this study is all local government employees of Parepare. The samples are 343 respondents which are based on Slovin formula. The method used to analyze data is Structural Equation Model using AMOS 18. It is found that organizational culture and competence significantly give positive effect on the employees' job satisfaction.

KEY WORDS

Organizational culture, competence, motivation, satisfaction, employee's performance.

Human resource is one of the important elements in an organization if it is compared to other elements, such as modal, devices, and technology because human controls other sources within the organization. For example, human is the one who chooses what technology to use, decides what machines and devices to use, and the one who operates and maintains them. Besides, human can be of the competitive advantage sources. Therefore, its management in an organization is very important.

Based on a phenomenon occur in Regional Work Unites and based on the observation of the researcher supported by the result of employees' performance evaluation show that, in doing main duties and function, the government employees of Parepare have not fulfilled the expectation although the target of the performance tends to increase every year. In fact, the result obtained has not been maximally achieved yet. In this case, the phenomenon relates to the organizational culture. However, the reality shows that some of the employees seem to lack of innovation in accomplishing every job given to them and lack of attention on working carefully and in detail so that some mistakes relating to the accomplished work occur.

According to Robbins (2007), the strong culture has stronger impact on the values in an organization because organizational culture has internal climate, and with high intensity, it can construct behavior in the organization which can affect someone's creativity. The organizational culture is an attitude and work behavior based on the employees' characteristic with some indicators i.e. innovation, attention to any details, team-oriented, and aggressiveness.

Another phenomenon found is that there are a lot of employees who know little about main duties and function to do, lack of skills and experience in accomplishing their work, and have low work control attitude in handling certain job which becomes their main duties and function. It is likely to happen because some of the employees have low competence in doing activities so that the result cannot be achieved optimally.

In fact, human resources who work in an organization should have good competence quality which can support their works. The competence of human sources is reflected through the window theory proposed by Donald (2007) who states that someone's competence can be seen from four sides of window frames i.e. knowledge, skills, experience, and attitude. Thus, the more competence human resources have the higher satisfaction and performance is.

The next phenomenon is that there are a lot of employees who complain the lack of career opportunity and other opportunities for self-development. In fact, those aspects are very important to make the employees feel no stagnation towards their position and duties. Besides, they complain the lack of reward for their achievement; thus it seems that there is no difference between those who obtain good achievement and those who do not. Moreover, it is found that the employees frequently delay their works and have no initiative to increase their work productivity and creativity.

The low motivation of the employees may occur because of unfulfilled demands and hopes which can encourage them to be excited and passionate to do the work. An organization should consider the work motivation for their employees or staffs because it is one of the alternatives to encourage the quality of human resources; therefore, human resources with high motivation are expected to be able to be involved in increasing their performance.

As it is stated by Richard (2006), motivation can cause any behavior reflecting high performance in an organization. Employees who have high motivation tend to increase their skills in accomplishing their duties. Therefore, based on the explanation and to answer some questions, it is necessary to conduct a study about the Effect of Organizational Culture, Competence, and Work Motivation towards Satisfaction and Performance of the Government Employees of Parepare.

In this case, various definitions of organizational culture are proposed by experts, such as Robbins (2007). He states that organizational culture is a system of the same perspective believed by its members which distinguishes one organization from others. According to Robbins (2007), strong culture has stronger impact on the values within the organization because organizational culture has internal climate. Besides, with the high intensity, it can construct behavior within the organization which can affect someone's creativity. On the other hand, the power distance is a degree which members of a society agree that the power in an institution or organization does not distributed equally. As a result, it affects behavior of society members who have less in power and those who have power. In this case, those who have great power distance accept the hierarchy in which every person owns a position which does not necessarily need justification anymore. On the other side, those who have little power distance in society eager on equality and demand for justification for the different power.

Theory of competence is universal to increase the achievement of organization goals. Mangkunegara (2007) states that human resource competence is the most important thing to be considered to be able to achieve the organization goals. This theoretical basis is used as a framework of systematic knowledge including any rules, principles, and concepts which tend to be true in every managerial condition in analyzing human resource competence.

Moreover, Follet (2004) states that human resource competence is a developing model of human potential quality. It means that to achieve the individual or organizational goals, human resources should always do their duties based on beneficial value and advantage of activities they do. Then, from this statement, Follet theory about potential competence of human resources was born. In addition, theory proposed by Donald (2007) states that basically, the self-development access is basically an introduction of human resource competence which introduces Window Theory stating that each self-development owned by human can be observed through four perspectives which is like a window i.e. knowledge, skills, experience, and attitude.

Robbins (2007) identifies that motivation is as a process which also defines the intensity, direction and individual persistence to achieve a target. Intensity relates to how much effort someone does. High intensity may not produce expected performance if it is not directed to the way which can benefit the organization. The way which is directed to the target and consistent to the target of the organization is the one which should be concerned because it will be long last. Therefore, the motivated employees can stay working for a long time to achieve the target. Besides, Rivai et al. (2008) state that motivation is a series of attitude and values which affect each individual to achieve specific thing based on his or her

goals. The attitude and values are invisible things which empower individual to behave in achieving the goals.

In terms of job satisfaction, according to Wexley and Yulk (1977), it is the way employee feels about his or her job. Besides, Blum and Naylor (1988) also state that job satisfaction is a general attitude which is the result of particular attitudes towards a job, adaptation, and individual social relationship outside the work. Job satisfaction is an emotional situation whether it is pleasant or not in which each employee thinks about their job. In other words, job satisfaction reflects pleasure feeling about the job which can be seen through the positive attitude of employees and in everything faced in the surroundings.

Dessler (2005) states that performance is work achievement which is a comparison between the real result of the work and work standard set. Besides, according to Gibson et al. (2003), job performance is the result of the work relating to the organization goals, efficiency and the effectiveness of other performances. Moreover, Ilyas (1999) says that performance is the appearance of the result of personnel's work in an organization. The performance of the masterpiece is not only limited to those who have functional and structural position, but it is also for all personnel in the organization.

In this case, Bermadin and Ruseel (1993) states that there are six criteria to measure employee's performance individually: (1) Quality is the result of the works which is done by employee's best effort so that the result is nearly perfect or near to the goals expected; (2) Quantity is the number of the result or the number of accomplished works done by an employee; (3) Timeliness is the time spent by an employee to accomplish every job given to his or her based on the target which has been set; (4) Cost effectiveness is how far an employee can use organization resources (human, technology, finance, and materials) optimally so that maximum result is obtained; (5) Need for supervision is how well an employee can do the works without being supervised by his or her leader and without being dependent on other people; (6) Interpersonal Impact is how far an employee can keep his or her self-regard, reputation, and group work among colleagues.

CONCEPTUAL FRAMEWORK

The framework about the effect of organizational culture, competence, and motivation towards the employee's satisfaction and performance can be depicted in Figure 1.

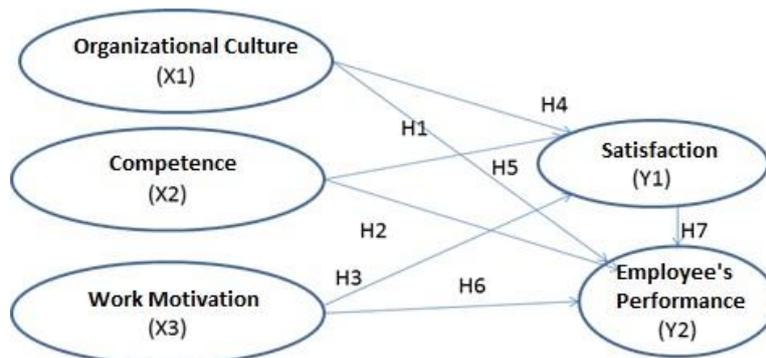


Figure 1 – Research framework

METHODS OF RESEARCH

The population of this study is all local government employees of Parepare involving 34 Regional Work Unites having 2.419 employees. The samples are 343 employees which were chosen using Multi stage stratified Random Sampling and Solvin's formula (1960). Through the method, it can be seen that this research is an evaluation on the implementation of organizational culture concepts, competence and motivation in relation to the employee's satisfaction and performance. Moreover, from its level of explanation, two approaches are used i.e. descriptive and explanatory. From the kind of data and its analysis, it uses

quantitative, qualitative, and the combination of the three. The research instrument test is administered using validity and reliability test. In addition, the technique of data analysis uses descriptive statistics analysis, structural model test using SEM and AMOS 20. Then, the hypothesis test uses t-test and comparing critical ratio (c.r).

RESULTS AND DISCUSSION

The data analysis of the last stage of SEM model is done using goodness of fit test and statistic test. The result of the data analysis for the last stage of SEM model analysis is depicted in Figure 2.

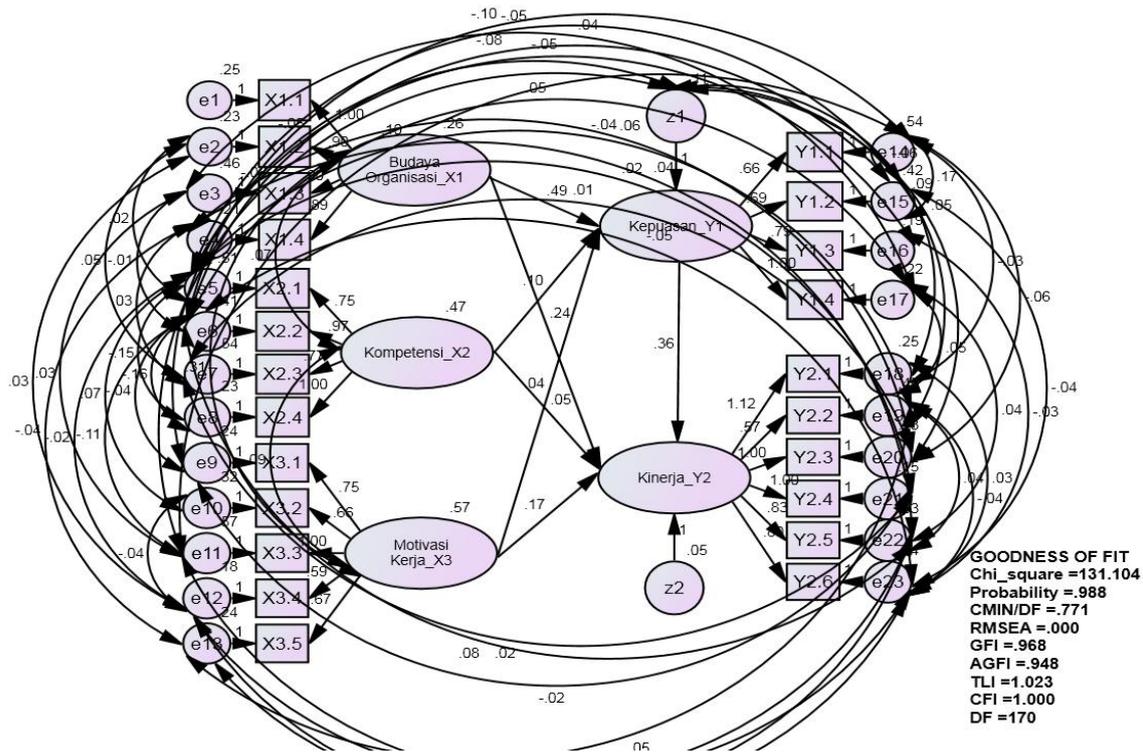


Figure 2 – The result of the second stage test of causal relationship model between organizational culture, competence and motivation variable towards job satisfaction and employee’s performance

The test of SEM model is administered to see the goodness of fit of the model. The result can be seen in Table 1.

Table 1 – The computation criteria of Goodness of Fit Indices (GFI) of complete model

| Goodness of fit index | Cut-off Value | Result of the Model* | Description |
|-----------------------|---------------------------|----------------------------|-------------|
| Chi_Square | Expected having low value | 131.104 (0.05:170=201.423) | Good |
| Probability | ≥ 0.05 | 0.988 | Good |
| CMIN/DF | ≤ 2.00 | 0.771 | Good |
| RMSEA | ≤ 0.08 | 0.000 | Good |
| GFI | ≥ 0.90 | 0.968 | Good |
| AGFI | ≥ 0.90 | 0.948 | Good |
| TLI | ≥ 0.94 | 1.023 | Good |
| CFI | ≥ 0.94 | 1.000 | Good |

Based on the analysis, the value of Chi-Square is 201.423 with df=170 and the probability is .988. The result of Chi-Square shows that the null hypothesis stating that the model and the empirical data obtained is the same meaning that the model is fit. The hypothesis test in this research model uses t-test and the comparison of the value of critical ratio (t calculation) with 5% of level of alpha significance (α .05).

Table 2 – The result of hypothesis testing

| Hypothesis | Independent Variable | Intervening Variable | Dependent Variable | P-value | CR | Direct | Indirect | Total | Description |
|------------|-----------------------------|----------------------|-----------------------------|---------|-------|--------|----------|-------|-------------|
| 1 | Organizational culture (X1) | - | Satisfaction (Y1) | 0.000 | 3.491 | 0.552 | - | 0.552 | Significant |
| 2 | Competence (X2) | - | Satisfaction (Y1) | 0.017 | 2.398 | 0.157 | - | 0.157 | Significant |
| 3 | Work Motivation (X3) | - | Satisfaction (Y1) | 0.632 | 0.478 | 0.072 | - | 0.072 | Significant |
| 4 | Organizational culture (X1) | Satisfaction (Y1) | Employees' Performance (Y2) | 0.031 | 2.161 | 0.281 | 0.210 | 0.491 | Significant |
| 5 | Competence (X2) | Satisfaction (Y1) | Employees' Performance (Y2) | 0.130 | 1.516 | 0.073 | 0.060 | 0.133 | Significant |
| 6 | Work Motivation (X3) | Satisfaction (Y1) | Employees' Performance (Y2) | 0.005 | 2.822 | 0.304 | 0.027 | 0.331 | Significant |
| 7 | Satisfaction (Y1) | - | Employees' Performance (Y2) | 0.000 | 4.408 | 0.380 | - | 0.380 | Significant |

The Effect of Organizational Culture towards Job Satisfaction. The result of complete model SEM test shows that organizational culture gives significant effect towards employee's job satisfaction. The value of critical ratio (c.r) obtained is 3.491 which is greater than 1.96. Moreover, the value of probability (P-value) is .000 which is lower than $\alpha .05$ as it is set. It means that the organizational culture have direct relationship with employee's job satisfaction. Therefore, it indicates that the better organizational culture is the higher job satisfaction of the local government employees of Parepare is.

Regarding to the result, in running organization activities, the government of Parepare should always be based on the role of culture to be able to increase employee's job satisfaction. The organizational culture implemented is as a habit actualization having value and norm to be obeyed by every organization member, especially the employees within it. The implementation of organizational culture cannot be separated from innovation value in doing and accomplishing tasks and responsibility, paying much attention to any details, doing team-oriented work, and being aggressive in doing organization activities to reach its goals.

The result of this study supports the satisfaction integration theory by DeShields et. al., (2005) stating that organizational culture is the fundamental value integration and philosophy in realizing job satisfaction of each member of the organization. It means that philosophically, every activity or action done has complete relationship and inseparable based on the values believed by organization founders to realize job satisfaction.

The Effect of Competence towards Job Satisfaction. The result of SEM model test shows that competence with knowledge, skills, experience, and behavior indicator has significant and positive effect towards job satisfaction. It can be seen through the value of critical ratio showing $2.398 > 1.96$ and the probability value is $.017 < .05$ as it is set. It means that competence and job satisfaction has positive and significant causal relationship. Therefore, the better competence owned by employees the higher job satisfaction they get.

The empirical evidence relating to competence and job satisfaction show that the consistency result of this study can be found in Brocklesby (1995) and Boutler (1999) stating that competence contributes to the affectivity of good work and gives someone's job satisfaction.

The Effect of Motivation towards Employee's Job satisfaction. The discussion of the effect of motivation towards employee's job satisfaction using complete SEM model test result shows that work motivation does not significantly give positive effect towards employee's job satisfaction. The value of critical ratio (c.r.) is .478 which is lower than 1.96 and the probability value (P-value) is .632 which is greater than $\alpha .05$ as it is set. In other words, work motivation does not have direct relationship to employee's job satisfaction.

Therefore, it indicates that the work motivation of government employees of Parepare will not directly increase employee's job satisfaction.

Regarding to the result, the employees as human being, in working, need an opportunity to increase career, recognition, rewarding, work responsibility, and better opportunity for self-development because every employee, in facing their work dynamic, needs motivation to fulfill job satisfaction. The motivation needed cannot be separated from the need fulfillment of self-actualization and rewarding and better career. However, those types of motivation cannot be obtained by every employee in an organization.

The Effect of Organizational Culture towards Employee's Performance. The discussion of the effect of organizational culture towards employee's performance using complete SEM model test result shows that organizational culture significantly gives positive effect to employee's performance. The value of critical ratio (c.r.) is 2.161 which is higher than 1.96 and the probability value (P-value) is .031 which is lower than α .05 as it is set. In other words, organizational culture has direct relationship with employee's performance. Therefore, it indicates that the better the organizational culture in the environment of government employees of Parepare is the higher employee's performance will be.

Regarding to the result, the organizational culture for Parepare Government is required to develop essential values for every employee in facing their work dynamic. Thus, every employee is required to have a sense of innovation on working, to pay attention to every detail, to work in team-oriented not individual-oriented, and eager on working so that the employees can increase their performance. Through the strong organizational culture, it will give positive and significant effect on increasing performance.

This study of the effect of organizational culture towards employee's performance supports the previous research conducted by Gani (2006), Uddin et al (2012), stating that organizational culture significantly gives positive effect to the performance.

The Effect of Competence towards Employee's Performance. The effect of competence towards employee's performance can be seen in the fifth hypothesis (H5) of this study stating that competence affects the performance of government employees of Parepare. Based on the result of SEM analysis after the test was administered, it is found that competence does not significantly affect employee's performance, whether it is directly or indirectly through the intervening variable of job satisfaction. The critical ration (c.r) shows that the value is 1.516 which is lower than 1.96, and the probability value (P-value) is .130 which is higher than α .05 as it is set. In other words, employee's competence does not directly affect employee's performance. Therefore, it shows that good competence owned by the employees will not directly affect the increasing performance of government employees of Parepare.

The Effect of Motivation towards Employee's Performance. Regarding to the result of Structural Equation Modeling (SEM) analysis, work motivation, with career opportunity, recognition, awarding, work responsibility, and opportunity for self-development indicator, significantly gives positive effect on employee's performance. The critical ratio (c.r) is 2.822 which is higher than 1.96 and the probability value (P-value) is .005 which is lower than .05 as it is set. In other words, work motivation has positive and significant causal relationship with the performance. Therefore, the higher work motivation of the government employees of Parepare is the higher employee's performance is.

Regarding to the theory proposed by Hasibuan (1997), employee's work motivation has some goals: to encourage work passion and spirit of the employee, to increase moral and job satisfaction of the employee, to increase employee's productivity, to maintain loyalty and stability of the organization, to create situation and good work relationship, to increase creativity and participation of the employee, to increase responsibility of the employee, and to increase the efficiency of the use of devices and materials.

The Effect of Job Satisfaction towards Employee's Performance. The discussion of the effect of job satisfaction towards employee's performance using the result of complete SEM model test shows that job satisfaction gives positive and significant effect to employee's performance. The critical ratio is 4.408 which is higher than 1.96 and the probability value (P-value) is .000 which is lower than .05 as it is set. In other words, job satisfaction of the

employees has positive and significant causal relationship. Positively, the effect of job satisfaction variable towards employee's performance is very affected by four dimensions forming it: salary, work situation, colleagues support, and challenging work.

The study about the effect of job satisfaction towards employee's performance supports the previous study conducted by Ali (2002), Sajib & Thomas (2006), Mutisari Devi (2007) and Nisbat Ali & Muhammad Zia-ur-Rehman (2014) stating that job satisfaction affects employee's performance positively and significantly.

CONCLUSION

Organizational culture affects employee's job satisfaction positively and significantly. The positive effect affects the employee's satisfaction. Therefore, the better organizational culture is the higher level of job satisfaction of government employees of Parepare is.

Competence affects employee's job satisfaction positively and significantly. The positive effect affects employee's satisfaction. Therefore, the better competence owned by the employee is the higher job satisfaction of government employees of Parepare is.

Motivation does not significantly affect satisfaction. As a result, it affects the job satisfaction. Therefore, high employee's motivation will not directly affect the increase of job satisfaction.

Organizational culture affects employee's performance positively and significantly, whether it directly or indirectly affects through the intervening variable of job satisfaction. The positive effect affects the employee's performance. Therefore, the better organizational culture is the higher performance of government employees of Parepare is.

Competence does not significantly affect employee's performance, whether it affects directly or indirectly through the intervening variable of job satisfaction. The effect which is not significant affects the employee's performance. Therefore, the high competence of the employee will not directly affect the performance of the government employees of Parepare.

Motivation significantly gives positive effect on employee's performance, whether it affects directly or indirectly through the intervening variable of job satisfaction. The positive effect affects the performance of the employee's performance. Therefore, the higher motivation of the employee is the higher performance of the government employees of Parepare is.

Job satisfaction significantly gives positive effect on employee's performance. This positive effect affects the employee's performance. Therefore, the higher employee's level of satisfaction is the higher performance of government employees of Parepare is.

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THE INFLUENCE OF ECO-AIRPORT AND MALL-AIRPORT CONCEPTS AND CULTURAL DISPLAY OF EAST BORNEO ON VISITORS' SATISFACTION AT SULTAN AJI MUHAMMAD SULAIMAN AIRPORT BALIKPAPAN

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ABSTRACT

This research aimed to analyze the influence of eco-airport and mall-airport concepts and cultural display of East Borneo on visitors' satisfaction at Sultan Aji Muhammad Sulaiman Airport Balikpapan. The analysis tool was Smart-PLS 3.0 and the research method was quantitative method of path analysis. The result of the research showed that eco-airport and mall-airport concepts and cultural display of East Borneo had positive and significant influence on visitors' satisfaction at Sultan Aji Muhammad Sulaiman Airport Balikpapan with the contribution of R-square value 78,3%.

KEY WORDS

Eco-airport, mall-airport, display, visitor, satisfaction.

Airport or aerodrome is a facility where airplanes can take off and land, (Kazda and Caves, 2010). The simplest airport has at least a runway but large airports are usually equipped with other various facilities, both for service carriers and for its users, (De Neufville, 2016). According to Annex 14 of the ICAO (International Civil Aviation Organization) airport is a particular area of land or water (including buildings, installations and equipment) that is intended entirely or partially for the arrival, departure and airplane movement (Caves 1997).

Sultan Aji Muhammad Sulaiman Airport is the new name of Sepinggan Airport Balikpapan. The use of Sultan Aji Muhammad Sulaiman Airport name begins on September 15, 2014 or since the opening of Sepinggan Airport's new terminal. Sultan Aji Muhammad Sulaiman Airport Balikpapan is the 4th largest airport of 13 airports managed by PT. Angkasa Pura I or Angkasa Pura Airport, (Savitri, 2017). Since the inauguration of the new name of Sultan Aji Muhammad Sulaiman Airport, previously with the name of Sepinggan Airport, Sultan Aji Muhammad Sulaiman Airport has been awarded in various categories every year, not only the domestic award but also the foreign award. In term of the award that is obtained by Sultan Aji Muhammad Sulaiman Airport Balikpapan, it obtains the category of the best airport, grandest airport, and the airport with the best service that provides satisfaction for visitors.

Customer satisfaction is the feeling of pleasure or disappointment of a person after comparing the performance of the product to the expected performance, (Woodruff and Gardial, 1996). Another opinion suggests that customer satisfaction is the customer's feelings to one type of service he/ she gets, (Hansemark and Albinsson, 2004). Buchari (2007) stated that customer satisfaction factors are the situation experienced by customer and can trigger customer emotional. One of the factors that can affect consumer's emotion is creating a marketing atmosphere or so-called store atmosphere, (Grewal et al., 2003). According to Buchari (2007), it focuses on environmental design through visual communication, lighting, color, music, and smell to stimulate customer's perceptual and emotional responses and finally influence purchasing behavior.

According to airport magazine in 2015, it explained that Sultan Aji Muhammad Sulaiman Airport Balikpapan brings the concept of mall in the airport (mall-airport) and also implements eco-airport concept applied in the design of airport buildings or airport atmosphere. The greenhouse effect reflects an eco-friendly place because it is efficient for lighting or electricity. In addition, the artificial forest in the airport allows the coolness in the airport. In term of entertainment, the visitors or passengers will also be facilitated with mall-

airport concept that provides shopping facilities with comfortable layout. Moreover, when the visitors or passengers visit Sultan Aji Muhammad Sulaiman Airport Balikpapan they will find introduction and description about cultural values of East Borneo including black orchid poster of Borneo, honey bear picture, picture of traditional dance and clothes of Dayak, picture of orang utan, picture of hornbill, and the introduction of other East Borneo cultural values which are promoted in the airport area through the existing displays.

Reviewing from the existing theory, eco-airport and mall-airport concepts and cultural display of East Borneo are contained in the theory of store atmosphere. Therefore, the researchers were willing to test the application of store atmosphere elements within eco-airport and mall-airport concepts and cultural display of East Borneo to the visitor satisfaction of the airport to find out the phenomenon causing Sultan Aji Muhammad Sulaiman Airport Balikpapan receives national and international awards frequently.

This research objectives are: (1) to know the influence of eco-airport concept at Sultan Aji Muhammad Sulaiman Airport Balikpapan on visitor satisfaction; (2) to know the influence of mall-airport concept at Sultan Aji Muhammad Sulaiman Airport Balikpapan on visitor satisfaction; and (3) to know the influence of cultural display of East Borneo at Sultan Aji Muhammad Sulaiman Airport Balikpapan on visitor satisfaction.

LITERATURE REVIEW

Description of PT Angkasa Pura I. PT Angkasa Pura I (Persero) or also known as Angkasa Pura Airport is a pioneer of airport commercial exploitation in Indonesia since 1962. When President Soekarno returned from the United States, he affirmed his expectation to the Minister of Transportation and Minister of Public Works for Indonesian airports to be equivalent to the airports of developed countries. Currently, Angkasa Pura Airport manages 13 (thirteen) airports in the central and eastern regions of Indonesia as can be seen in Table 1.

Table 1 – List of airports managed by Angkasa Pura Airport

| No. | Airport Name | Location |
|-----|------------------------------------------------|----------------|
| 1 | I Gusti Ngurah Rai Airport | Denpasar |
| 2 | Juanda Airport | Surabaya |
| 3 | Sultan Hasanuddin Airport | Makassar |
| 4 | Sultan Aji Muhammad Sulaiman Sepinggan Airport | Balikpapan |
| 5 | Frans Kaisiepo Airport | Biak |
| 6 | Sam Ratulangi Airport | Manado |
| 7 | Syamsudin Noor Airport | Banjarmasin |
| 8 | Ahmad Yani Airport | Semarang |
| 9 | Adisutjipto Airport | Yogyakarta |
| 10 | Adi Soemarmo Airport | Surakarta |
| 11 | Internasional Lombok Airport | Central Lombok |
| 12 | Pattimura Airport | Ambon |
| 13 | El Tari Airport | Kupang |

Eco-Airport. According to PT. Angkasa Pura, eco-airport is an eco-friendly airport utilizing the existing environmental sources with minimal environmental damage or disturbance. Meanwhile, according to the Airport Directorate, eco-airport is an airport that has been measured against the some components that potentially have an impact on the environment in order to create a healthy environment in the airport and its surroundings.

In order to realize the eco-airport concept at an airport, the Eco Airport Council is established and bring the duty of setting up environmental management targets consisting of 8 environmental elements (air, energy, noise/ vibration, water, soil, solid/ liquid waste, natural environment, and so on). The elements of the store atmosphere are the sound or noise level, the smell of the room, the physical appearance of the buildings, lighting, and temperature. Reviewing from eco-airport concept at Sultan Aji Muhammad Sulaiman Airport Balikpapan, the atmosphere elements applied to the eco-airport concept are:

- The noise level of the airport with the application of eco-airport concept;
- The smell of plants that are deliberately placed inside the airport;

- The physical appearance of greenhouse building that enables natural light in the airport;
- Lighting in the airport is more dominant by utilizing solar energy to save more energy;
- Temperature is an air circulation system made with the application of eco-airport concept.

Mall Airport. According to Wikipedia, Mall is a kind of shopping center that is architecturally a closed building with a regulated temperature and has a path to have regular walk between the small shops facing each other. Berman and Joel (2007: 544) stated that one elements of store atmosphere include store layout that is the placement of space to fill the available floor area, classify the product to be offered, manage in-store traffic, set the required width of space, map the store room and arrange the offered products individually. Reviewing from mall-airport concept at Sultan Aji Muhammad Sulaiman Airport Balikpapan, the elements of store layout applied into mall-airport concept are:

- Selling space: a room used for displaying goods, interactions between sellers and consumers, demonstrations and others;
- Customer space: a room provided to improve consumer convenience;
- Traffic Flow: the traffic flow of mall airport allows the visitors to feel comfortable entering heading out the airport mall;
- Mapping of products within the airport mall so that the consumers can easily find the desired product.

Cultural Display of East Borneo. The blend of modern style and Borneo culture with Dayak nuance are so beautiful to see while visiting Sultan Aji Muhammad Sulaiman Airport Balikpapan. Despite the modern style of architecture, there are so many traditional nuances. There is the melody of Sape, a musical instrument of Dayak tribe. Each corner of the airport is decorated with distinctive dayak nuances, starting from local wildlife, traditional dances, the dazzling art of Dayak tribe, and even a portrait of Kutai Kartanegara King of Mulawarman which is displayed in the crowd spot at the airport, including the mall. All of them are presented through the displays that are scattered at the airport. By having the displays, it is expected that the visitors will be educated by the description of East Borneo culture.

According to Sopiah and Syihabuddin (2008: 238) Display is an attempt to arrange the goods that lead the buyers to be interested to look around and decide to buy the goods. According to Swastha and Ibnu (2009: 18), display is promoting the goods to consumers so that the consumers will easily observe them. Display has two purposes: to provide information to consumers and add to the store atmosphere.

Based on the statement of the experts about display, cultural display of East Borneo at Sultan Aji Muhammad Sulaiman Airport Balikpapan contains the following things:

- Arrangement of cultural display of East Borneo looks neat in its display;
- Visitors can easily observe cultural display of East Borneo through the displays that have been arranged.
- Cultural display of East Borneo educates consumers in terms of introduction of East Borneo culture.
- The creation of a unique airport atmosphere with cultural display of East Borneo.

Visitor Satisfaction. Satisfaction is the response of consumers related to the fulfillment of needs, (Zabkar et al., 2010). Satisfaction is an assessment of the characteristics or features of the product or service, or the product itself, which provides the level of consumer satisfaction related to the fulfillment of consumer consumption needs. The attribute forming the satisfaction consists of: 1) the suitability of expectations which is the level of suitability between the performance of the product which is expected and perceived by the customer, including the product or the service and also the available facilities; 2) the willingness of another visit which is the willingness of consumers to have another visit; 3) another recommendation which is the willingness of the consumers to recommend the products or services they just consumed to their close relatives (Yen, 2005).

Based on the statement of the experts, visitor satisfaction of East Borneo at Sultan Aji Muhammad Sulaiman Airport Balikpapan contains the following things:

- The service at Sultan Aji Muhammad Sulaiman Airport Balikpapan is good;
- The facilities at Sultan Aji Muhammad Sulaiman Airport Balikpapan are adequate;
- The desire of the visitors to have another visit at Sultan Aji Muhammad Sulaiman Airport Balikpapan;
- The willingness of visitors to recommend the uniqueness of Sultan Aji Muhammad Sulaiman Airport Balikpapan.

Hypotheses Development:

Eco-airport concept on visitor satisfaction. Consumer satisfaction factors are the situation experienced by consumers and may trigger emotional condition of the consumer. According to Levy and Weits, one of the factors that can influence consumer emotional condition is to create a marketing atmosphere or so-called store atmosphere. The atmosphere focuses on the design environment through visual communication, lighting, color, music, and smells to stimulate the customer's perceptual and emotional response and ultimately affect the purchasing behavior. Eco-airport concept at Sultan Aji Muhammad Sulaiman Airport is applied into the atmosphere of the airport including greenhouse-based buildings, the dominant lighting of the sun, and the atmosphere of green environment. Netti and Aditya, in 2015, conducted a research entitled "The Influence Store Atmosphere on Consumer Satisfaction at Roemah Coffee Bandung". The results showed that store atmosphere had a significant influence on consumer satisfaction. Based on theoretical and empirical perspectives, the hypothesis can be drawn as follows:

H1: Eco-airport concept has a positive and significant influence on visitor satisfaction.

Mall-airport concept on visitor satisfaction. Triyono (2006: 16) argued that layout is part of the retail mix which is included in the concept of place where the layout or presentation or display of goods (merchandise) is in the store. The presentation or display refers at least to traffic flow or customer traffic, location and the number of departments of goods to be sold, the width and location of the customer service counter, the product storage area, and the atmosphere around the store. In selecting a merchant, each consumer evaluates four key factors before making a decision, including: location, choices of goods, price, and shopping experience. Mall-airport concept at Sultan Aji Muhammad Sulaiman Airport is applied to the store layout including selling space, customer space, traffic flow, and product mapping. Supriyani and Sahala, in 2013, conducted a research entitled "The Influence of Layout on Retail Customer Satisfaction". The results showed that the layout influenced consumer satisfaction. Based on theoretical and empirical perspectives, the hypothesis can be drawn as follows:

H2: Mall-airport concept has a positive and significant influence on visitor satisfaction.

The concept of cultural display of East Borneo on visitor satisfaction. Display may influence customer satisfaction: "Display has great appeal to a buyer who is driven to make a purchase or to a buyer who does not have any plan at the previous purchase, and finally get a sense of satisfaction in their purchase". Fransisca et al., in 2013, examined an interior display in a restaurant at Surabaya under the title of "Influence Store Layout, Interior Display, Human Variable on Customer Shopping Orientation at Dewandaru Restaurant Surabaya". Interior display of restaurant was very unique by displaying the values of Javanese traditional culture and the results showed that the interior display with the theme of culture had a significant influence on consumer purchasing decision.

The interior display of Sultan Aji Muhammad Sulaiman Airport also applies the promotional theme of East Borneo culture. It can be seen from the displays decorating with distinctive Dayak nuance, starting from local animals, the dazzling traditional dances and arts of Dayak tribe, and also a portrait of Kutai Kartanegara King of Mulawarman displayed in mall-airport spot. A research published in 2017 entitled "Analysis of the Influence of Product Display and Store Atmosphere on Customer Satisfaction (Survey in Yogya Supermarket Tasikmalaya Branch)", explained that display was very influential to customer satisfaction. Based on theoretical and empirical perspectives, the hypothesis can be drawn as follows:

H3: Cultural display of East Borneo has a positive and significant influence on visitor satisfaction.

CONCEPTUAL FRAMEWORK

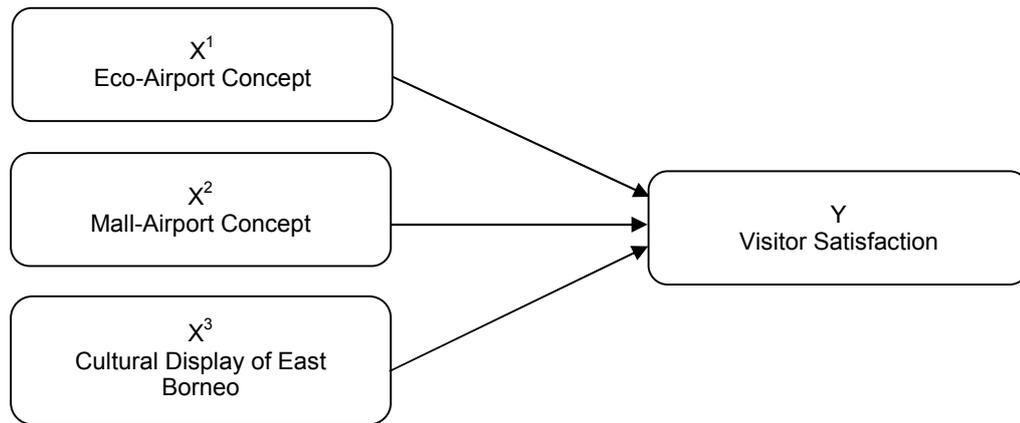


Figure 1 – Conceptual Framework

METHODS OF RESEARCH

This research is an explanatory research in which knowing and explaining the influence between variables that aimed to test a theory or hypothesis in order to strengthen or reject a theory or empirical study which have been conducted before and then it is continued with hypothesis testing. Therefore, this research explained the causal relationship among variables. This research used survey technique by spreading questionnaire consisting values based on Likert scale by using interval value 1-5. Variables of the research consisted of three independent variables (X): Eco-Airport concept (X¹), Mall-Airport concept (X²), Cultural Display of East Borneo (X³), and one dependent variable (Y): visitor satisfaction.

Data sampling was conducted by using purposive sampling technique that was based on consideration of research or based on the desired elements or based on certain criteria, Sugiyono (2009: 125). The population of the research is unknown. Therefore, to determine the number of samples Roscoe formula was used. Sample criteria of the research were the people who visited Sultan Aji Muhammad Sulaiman Airport Balikpapan, either for a walk or for business departure. The samples were many as 40 people.

The analytical tool of the research was Smart-PLS 3.0 and the method of the research was path analysis method. According to Ghozali (2015:67), path analysis method consists of two models: structural model (inner model), a model that explains the relationship between latent variables and measurement model (outer model), a model that explains the indicators with latent variables. Before conducting the second test phase of the model, estimation stage was conducted with the iteration process to achieve convergent conditions in which each indicator of latent variable had the loading factor < 0.05.

RESULTS AND DISCUSSION

Estimation Stage. Based on the iteration process, indicator X2.4 was < 0.50 in which it was only 0.418 so it should be eliminated.

The indicators of Eco-Airport concept consisting of noise level (x1.1), plant aroma inside the airport (x1.2), physical display of greenhouse buildings (x1.3), and lighting in the airport with solar utilization (x1.4) had met the convergent condition in which having the value of > 0.50. Therefore, it can be concluded that all indicators are feasible to measure the variable of Eco-Airport concept. The indicators of Mall-Airport concept consisting of selling space (x2.1), costumer space (x2.2), and traffic flow (x2.3), had met the convergent condition in which having the value of > 0.50. Therefore, it can be concluded that all indicators are feasible to measure the variable of Mall-Airport concept.

Table 2 – Loading factor of each construct

| Variable | Construct | Loading Factor | Description |
|---------------------------------|-------------------------------------------------------------------------------------------------|----------------|-------------|
| Eco-Airport Concept | Noise level (X1.1) | 0.699 | > 0.50 |
| | Plant aroma inside the airport (X1.2) | 0.720 | > 0,50 |
| | Physical display of greenhouse buildings (X1.3) | 0.572 | > 0.50 |
| | Lighting in the airport with solar utilization (X1.4) | 0.812 | > 0.50 |
| Mall-Airport Concept | Selling space (X2.1) | 0.771 | > 0.50 |
| | Customer space (X2.2) | 0.631 | > 0.50 |
| | Traffic flow (X2.3) | 0.880 | > 0.50 |
| | Product mapping (X2.4) | 0.418 | elimination |
| Cultural Display of East Borneo | Display Arrangement (X3.1) | 0.604 | > 0.50 |
| | Ease in observing display (X3.2) | 0.537 | > 0.50 |
| | Cultural display of East Borneo educates visitors (X3.3) | 0.917 | > 0.50 |
| | The existence of the displays creates a unique airport atmosphere (X3.4) | 0.662 | > 0.50 |
| Visitor Satisfaction | Good service (Y.1) | 0.811 | > 0.50 |
| | Adequate facilities (Y.2) | 0.849 | > 0.50 |
| | Willingness to have another visit to the airport (Y.3) | 0.581 | > 0.50 |
| | Willingness of the visitors to recommend the uniqueness of the airport to their relatives (Y.4) | 0.775 | > 0.50 |

Source: Smart-PLS 3.0

Table 3 – Loading factor of each construct at the second iteration

| Variable | Construct | Loading Factor | Description |
|---------------------------------|-------------------------------------------------------------------------------------------------|----------------|-------------|
| Eco-Airport Concept | Noise level (X1.1) | 0.779 | > 0.50 |
| | Plant aroma inside the airport (X1.2) | 0.622 | > 0.50 |
| | Physical display of greenhouse buildings (X1.3) | 0.582 | > 0.50 |
| | Lighting in the airport with solar utilization (X1.4) | 0.711 | > 0.50 |
| Mall-Airport Concept | Selling space (X2.1) | 0.801 | > 0.50 |
| | Customer space (X2.2) | 0.601 | > 0.50 |
| | Traffic flow (X2.3) | 0.851 | > 0.50 |
| Cultural Display of East Borneo | Display Arrangement (X3.1) | 0.625 | > 0.50 |
| | Ease in observing display (X3.2) | 0.533 | > 0.50 |
| | Cultural display of East Borneo educates visitors (X3.3) | 0.927 | > 0.50 |
| | The existence of the displays creates a unique airport atmosphere (X3.4) | 0.692 | > 0.50 |
| Visitor Satisfaction | Good service (Y.1) | 0.831 | > 0.50 |
| | Adequate facilities (Y.2) | 0.829 | > 0.50 |
| | Willingness to have another visit to the airport (Y.3) | 0.697 | > 0.50 |
| | Willingness of the visitors to recommend the uniqueness of the airport to their relatives (Y.4) | 0.750 | > 0.50 |

Source : Smart-PLS 3.0

The indicators of cultural display of East Borneo consisting of display arrangement (x3.1), ease in observing display (x3.2), cultural display of east borneo educates visitors (x3.3), and the existence of the displays creates a unique airport atmosphere (x3.4) had met the convergent condition in which having the value of > 0.50. Therefore, it can be concluded that all indicators are feasible to measure the variable of cultural display of East Borneo.

The indicators of visitor satisfaction consisting of good service (Y.1), adequate facilities (y.2), willingness to have another visit to the airport (y.3), and willingness of the visitors to recommend the uniqueness of the airport to their relatives (y.4) had met the convergent condition in which having the value of > 0.50. Therefore, it can be concluded that all indicators are feasible to measure the variable of visitor satisfaction. Based on the result of the second iteration, the indicators of all latent variables had been qualified for convergent condition in which having the value of > 0.50. Therefore, the research could be continued to analyze the outer model and the inner model.

Testing of Measurement Model (Outer Model) and Structural Model (Inner Model):

Table 4 – Model testing

| Variables/ Indicators | Outer Loading | T-statistic | Composite Reliability | AVE | AVE Root |
|-------------------------------------------------------------------------------------------------|---------------|-------------|-----------------------|-------|----------|
| A. Eco-Airport Concept (X1) | | | 0.952 | 0.794 | 0.891 |
| Noise level (X1.1) | 0.756 | 67.1 | | | |
| Plant aroma inside the airport (X1.2) | 0.822 | 73.581 | | | |
| Physical display of greenhouse buildings (X1.3) | 0.859 | 23.091 | | | |
| Lighting in the airport with solar utilization (X1.4) | 0.874 | 42.8 | | | |
| B. Mall-Airport Concept (X2) | | | 0.952 | 0.797 | 0.893 |
| Selling space (X2.1) | 0.855 | 33.614 | | | |
| Customer space (X2.2) | 0.935 | 77.01 | | | |
| Traffic flow (X2.3) | 0.771 | 42.16 | | | |
| C. Cultural Display of East Borneo (X3) | | | 0.921 | 0.701 | 0.837 |
| Display Arrangement (X3.1) | 0.877 | 55.96 | | | |
| Ease in observing display (X3.2) | 0.883 | 55.7 | | | |
| Cultural display of East Borneo educates visitors (X3.3) | 0.952 | 89.31 | | | |
| The existence of the displays creates a unique airport atmosphere (X3.4) | 0.832 | 20.1 | | | |
| D. Visitor Satisfaction (Y) | | | 0.933 | 0.736 | 0.857 |
| Good service (Y.1) | 0.881 | 23.91 | | | |
| Adequate facilities (Y.2) | 0.803 | 42.1 | | | |
| Willingness to have another visit to the airport (Y.3) | 0.869 | 69.437 | | | |
| Willingness of the visitors to recommend the uniqueness of the airport to their relatives (Y.4) | 0.882 | 77.17 | | | |

Source: Smart-PLS 3.0

Table 5 – R-Square

| Variable | R-Square |
|--------------------------------------|----------|
| Eco-Airport Concept (X1) | |
| Mall-Airport Concept (X2) | |
| Cultural Display of East Borneo (X3) | |
| Customer Satisfaction (Y) | 0.783 |

Source: Smart-PLS 3.0

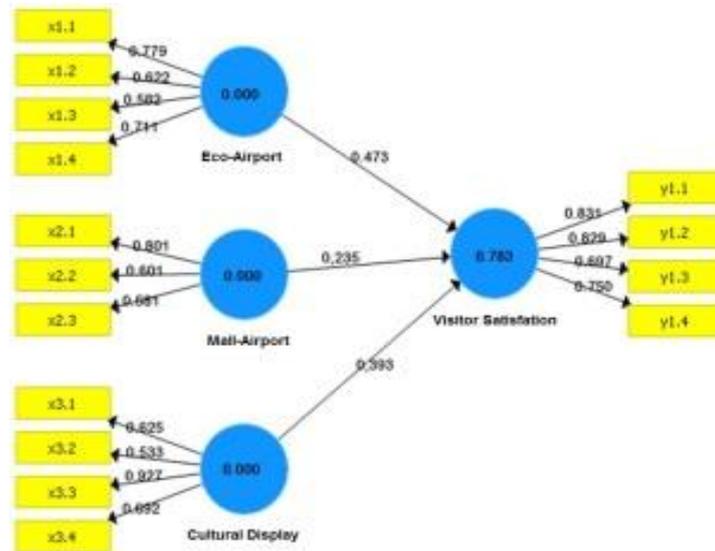


Figure 2 – Structural model (Source: Smart-PLS 3.0)

Based on the overall results, the indicators of each variable had outer loading value greater than 0.5 and t-statistic value greater than the t-critical value (1.96) which meant that each valid and significant indicator explained each variable. The four variables had AVE value higher than 0.50 and all variables had AVE root value higher than the correlation coefficient between one variable with another. Thus, it can be concluded that the data had good discriminant validity. The values of composite reliability of all constructs were more than

0.60 so it had met the reliable criteria. Based on the overall evaluation results of convergent, discriminant validity and composite reliability that had been described above, it can be concluded that the indicators as a measure of latent variables were valid and reliable.

The result of PLS analysis was shown in Figure 1. This result was based on the model showing that Eco-Airport and Mall-Airport concepts and cultural display of East Borneo had positive influence on visitor satisfaction.

Data from the figure conclude as follows:

- Hypothesis 1 stated that Eco-Airport concept has positive influence on visitor satisfaction at Sultan Aji Muhammad Sulaiman Airport Balikpapan is accepted.
- Hypothesis 2 stated that Mall-Airport concept has positive influence on visitor satisfaction at Sultan Aji Muhammad Sulaiman Airport Balikpapan is accepted.
- Hypothesis 3 stated that cultural display of East Borneo has positive influence on visitor satisfaction at Sultan Aji Muhammad Sulaiman Airport Balikpapan is accepted.

CONCLUSION AND SUGGESTIONS

Eco-Airport concept has positive influence on visitor satisfaction at Sultan Aji Muhammad Sulaiman Airport Balikpapan. It means that the better the Eco-Airport concept, the higher the visitor satisfaction. Lighting of the airport, with the use of the solar system in the application of Eco-Airport concept is the most powerful indicator to explain visitor satisfaction at Sultan Aji Muhammad Sulaiman Airport Balikpapan. Author's suggestion is that the airport management should maintain the existence of the iconic greenhouse buildings, so that the perception of Eco-Airport concept coming up to the visitor is utilizing the solar system as the lighting through the transparent glass wall in order to increase visitor satisfaction. In addition, the indicator of noise levels and aroma of the plants in the airport should be more noticed in order to increase the sense of visitor satisfaction.

Mall-Airport concept has positive influence on visitor satisfaction at Sultan Aji Muhammad Sulaiman Airport Balikpapan. It means that the better the Mall-Airport concept, the higher the visitor satisfaction. Customer space in the application of the Mall-Airport concept is the most powerful indicator to explain visitor satisfaction at Sultan Aji Muhammad Sulaiman Airport Balikpapan. Author's suggestion is that the airport management should provide consumer space either for shopping or just taking a walk by continuing to make improvements in the lounge or with consumer space. In addition, the indicators of selling space and traffic flow should be more noticed in order to increase the sense of visitor satisfaction.

Cultural display of East Borneo has positive influence on visitor satisfaction at Sultan Aji Muhammad Sulaiman Airport Balikpapan. It means that the more unique the cultural display of East Borneo, the higher the visitor satisfaction. The educating cultural display of East Borneo is the most powerful indicator to explain the visitor satisfaction at Sultan Aji Muhammad Sulaiman Airport Balikpapan. Author's suggestion is that the airport management should explore the cultural diversity of East Borneo and provide special space for promotional cultural displays of East Borneo to create a unique impression for visitor satisfaction. In addition, the indicators of display setting and ease in observing the display should be more noticed in order to increase the sense of visitor satisfaction.

Based on the observation, the visitors gave feedback value from the perceived satisfaction. It can be seen from the high indicator of satisfaction to recommend their relatives about Sultan Aji Muhammad Sulaiman Airport Balikpapan. Author's suggestion is that the management keeps providing good service, adequate facilities, and impression that make the visitors feel at home and stay longer at the airport. Therefore, it create the intention to visit have another visit and the intention to recommend the airport to their relatives.

Finally, the most important suggestion is that the management of Angkasa Pura should consider the innovation of Eco-Airport and Mall-Airport concepts and cultural display of East Borneo in order to create an effective marketing process to their airports. Moreover, the management of other places, in the restaurant, transportation bases or anywhere, should give more attention to the design of the building to get higher visitor satisfaction.

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**THE INFLUENCE OF EMPLOYEE JOB SATISFACTION AND SERVICE QUALITY
ON PROFITABILITY IN PT. BANK JATIM: CUSTOMER SATISFACTION
AS THE INTERVENING VARIABLE**

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ABSTRACT

This research aimed to examine the influence of employee job satisfaction and service quality on profitability in PT. Bank Jatim, in which customer satisfaction was the intervening variable. According to literature review, the hypothesis of the research stated that employee job satisfaction and service quality influenced the profitability of the Bank and customer satisfaction as intervening variable proved to affect the relationship between independent variable and dependent variable. The data of the research were collected by using questionnaire from respondents that consisted of 92 permanent employees of PT. Bank Jatim in Gresik City. The technique of hypothesis testing was performed by using Multiple Regression Analysis (MRA) and Path Analysis using SPSS 24 statistical application. The findings of the research indicated that employee job satisfaction and service quality have positive effect to profitability and customer satisfaction was shown as intervening variable. Specifically, this research found that employee satisfaction and service quality will improve the profitability of the company.

KEY WORDS

Job satisfaction, service quality, customer satisfaction, profitability.

As time passes, business competition in Indonesia is getting tighter. It is not only in the area of commerce and industry, but the area of banking has also emerged such signs. According to the data obtained by OJK in 2017, there were 116 Banks in Indonesia. It narrows the market share in Indonesia. In Indonesia, banks can operate outside the bank's work area, thus making it less likely for other banks. Therefore, the level of inter-bank competition is getting tighter which finally can decrease bank's ability to generate profits, (Soedarmono et al., 2013).

The little opportunity is contested by the banks in Indonesia with the proposed market share that is still promising. Customers become the consumers, (Nier, 2005). The customer would want its needs to be met by the Bank, as well as from the Bank's point of view. The Bank should also pay attention to its obligations as well as the needs and desires of its customers as partners of the bank itself, so that they not move to competitor banks (Berger et al., 2009). Banks should pay close attention to the good and perfect services for the service users in the bank that ultimately affect the ability to generate profits (Beck, 2013).

For a company runs in the field of services, employees are a great asset for the company in achieving company goals (Koys, 2001). The same case happens to companies engaged in the field of banking. To achieve the goals of banking companies is by generating profit or obtaining maximum profitability. Regarding to this issue, the management surely optimize the various motivations for employees in growing their spirit to work that can ultimately improve the company's performance, (Ramlall, 2004). Chi and Gursoy (2009) stated that employee satisfaction can have a positive influence on the company's financial performance.

Behind the success of the provision of services that cause the customers satisfied, there is a big role of employees who provide these services, (Spring and Araujo, 2009). If the employee is satisfied at the workplace, the employee will serve the customer with all their hearts and full of hospitality and empathy. It is absolutely influences the service to customers. If the customers feel disappointed, they will run to another bank and then the

image of the company will decrease and this may influence the profitability of the banking company. Naseem et al (2011) and Ariani (2015) stated that customer satisfaction can be influenced by employee satisfaction within the company; the more satisfied the employees to the rights given by the management, they will be more motivated in the giving the service to the customer so as to create customer satisfaction. Meanwhile, Tarigan and Widjaja, (2011) get the latest fact that employees are satisfied with the job and the rights given by management for themselves affect customer satisfaction because of the good service they are offered. So it can be concluded that job satisfaction from employees can affect customer satisfaction and indirectly can help to achieve the company's main goal that is the achievement of profit or profitability.

METHODS OF RESEARCH

Based on the scope of the research, this research can be categorized as explanative research because this research correlates between cause and effect that occur between the variables under research (Sujoko Efferin, 2004). Data collection was only conducted once after distributing the questionnaires to the employees of PT. Bank Jatim Branch Gresik.

The population of this research is all permanent employees of PT. Bank Jatim all over East Java branches, Batam Branches and Jakarta Branches which amounted to 4045 branches. The sample of this research is all permanent employees of PT. Bank Jatim Branch Gresik which amounted to 92 people. Questionnaires were distributed to all employees of PT. Bank Jatim Gresik consisting of Branch Manager, Head of Operations, Branch Head, Supervisor, Staff, Apprenticeship Staff and Security.

Table 1 – Respondent Profiles

| Respondent Profiles | Category | Frequency | Percentage |
|---------------------|---------------------------------------|-----------|------------|
| Sex | Male | 56 | 60.9% |
| | Female | 36 | 39.1% |
| | Total | 92 | 100% |
| Age | 20-30 | 48 | 52.5% |
| | 31-40 | 27 | 29.3% |
| | 41-50 | 10 | 10.9% |
| | 51-58 | 7 | 7.6% |
| | Total | 92 | 100% |
| Division/Unit | Customer Service | 33 | 35.9% |
| | Credit | 35 | 38% |
| | Accounting, Marketing etc. | 17 | 18.5% |
| | Branch Management | 7 | 7.6% |
| | Total | 92 | 100% |
| Position | Branch Manager | 1 | 1.1% |
| | Head of Operations and the same level | 6 | 7.6% |
| | Supervisor and the same level | 18 | 19.6% |
| | Staff | 59 | 64.1% |
| | Security | 4 | 4.3% |
| | Driver | 3 | 3.3% |
| | Apprenticeship Staff | 1 | 1.1% |
| | Total | 92 | 100% |

Based on the results of data collection that had been conducted before, the data of respondent identity were obtained to complete the research information. The data of respondent identity were identified by sex, age, division or unit, and job position. Based on sex profile, the respondents were dominated by 56 male respondents or 60.9% and 36 female respondents or 39.1%. Based on age profile, the respondents were dominated by 48 respondents aged 20-30 years or 52.5%, 27 respondents aged 32-40 years or 29.3%, 10 respondents aged 41-50 years or 10.9% and only 7 respondents aged 51-58 years or 7.6%.

Based on division profile, the division of credit was dominated by 35 respondents or 38%. The second place was customer service with 33 respondents or 35.9%. Accounting, marketing & others with 17 respondents or 18.5%, and branch management was only 7

respondents or 7.6% from 100%. Based on position profile, respondents were dominated by staff with 64.1% or 59 respondents, by supervisors and the same level with 18 respondents or 19.6%, by head of operations and the same level with 6 respondents or 7.6%, by security guard with 4 respondents or 4.3%, by driver with 3 respondents or 3.3%, and by branch manager and apprenticeship staff with only 1 respondent from each division or 1.1%.

RESULTS OF STUDY

Validity Test. The first evaluation of the measurement model is the validity test. To see the result of validity test, it is conducted by looking at the result of measurement instrument (questionnaire) on SPSS output by using bivariate correlation with sig < 0.05 (Imam Gozali, 2011). The results of the validity test can be seen in the following table:

Table 2 – The Result of Validity Test

| Variable | Indicator | p-value | Sig |
|-------------------------------------|-----------|---------|-------|
| EMPLOYEE JOB SATISFACTION (X_1) | EJS 1 | 0.445 | 0.000 |
| | EJS 2 | 0.249 | 0.017 |
| | EJS 3 | 0.751 | 0.000 |
| SERVICE QUALITY (X_2) | SQ 1 | 0.738 | 0.000 |
| | SQ 2 | 0.510 | 0.001 |
| | SQ 3 | 0.328 | 0.000 |
| | SQ 4 | 0.517 | 0.000 |
| | SQ 5 | 0.809 | 0.000 |
| CUSTOMER SATISFACTION (Y) | CS 1 | 0.972 | 0.000 |
| | CS 2 | 0.902 | 0.000 |
| | CS 3 | 0.864 | 0.000 |
| | CS 4 | 0.830 | 0.000 |
| | CS 5 | 0.835 | 0.000 |
| | CS 6 | 0.947 | 0.000 |
| PROFITABILITY (Z) | PR 1 | 0.894 | 0.000 |
| | PR 2 | 0.831 | 0.000 |
| | PR 3 | 0.950 | 0.000 |

The result of validity test can be seen in this table that we can see all valid variables because sig < 0.05. Reliability test is the second evaluation of the measurement model. To see the results of reliability test, it is conducted by looking at the results of measurement instrument (questionnaire) on SPSS output using cronbach alpha with sig > 0.06 (Imam Gozali, 2011). The result of reliability test can be seen in the following table:

Table 3 – The Result of Reliability Test

| Variable | Cronbach Alpha |
|---------------------------|----------------|
| Employee Job Satisfaction | 0,685 |
| Service Quality | 0,836 |
| Customer Satisfaction | 0,980 |
| Profitability | 0,950 |

The result of reliability test can be seen in the following table, we can see all the reliable variables, because sig > 0.06. After obtaining the results of validity and reliability test, we can continue the third evaluation from measurement model that is Multiple Regression Analysis. This evaluation can show the influence of Independent Variable X_1 (Employee Satisfaction) and Independent Variable X_2 (Service Quality) to Dependent Variable Z (Profitability). The results of Multiple Regression Analysis can be seen in table 4.

In this table, it can be seen that there is influence of independent variable (employee job satisfaction and service quality) to dependent variable (profitability). This conceptual model can explain that the contribution percentage of independent variable to dependent variable was 75.3%, while the rest was 24.7%. It was influenced by other variables that were not included in this research model.

Table 4 – The Result of Multiple Linear Regression Output (Coefficient of Determination) Summary Model

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1 | .868 ^a | .753 | .747 | .57304 |

a. Predictors: (Constant), SQ, EJS

Table 5 – The Results of Multiple Linear Regression Output (t-Test)

| Coefficients ^a | | | | | | |
|---------------------------|------------|-----------------------------|------------|---------------------------|--------|------|
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | -.266 | .239 | | -1.112 | .269 |
| | EJS | .656 | .072 | .546 | 9.051 | .000 |
| | SQ | .554 | .073 | .459 | 7.618 | .000 |

a. Dependent Variable: PR

Based on the table, it can be seen that the independent variable X_1 (Employee Job Satisfaction) is positively associated with the dependent variable Z (Profitability) because the sig value of the independent variable X_1 (Employee Job Satisfaction) is 0.000 in which it is less than < 0.05 . The independent variable X_2 (Quality of Service) is positively related to the dependent variable Z (Profitability) because sig value of independent variable X_2 (Service Quality) is 0.000 in which it is less than < 0.05 . The results showed that all independent variables influenced the dependent variable. To prove customer satisfaction as the intervening variable, we can use path analysis with SPSS 24 software. The results of path analysis are shown in the following table:

Table 6 – The Results of Multiple Linear Regression Output (Path Analysis)

| Coefficients ^a | | | | | | |
|---------------------------|------------|-----------------------------|------------|---------------------------|--------|------|
| Model | | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | -.242 | .150 | | -1.611 | .111 |
| | EJS | .206 | .060 | .171 | 3.450 | .001 |
| | SQ | .234 | .053 | .194 | 4.399 | .000 |
| | CS | .698 | .060 | .677 | 11.717 | .000 |

a. Dependent Variable: PR

DISCUSSION OF RESULTS

Employee Job Satisfaction (X_1) → Customer Satisfaction (Y) → Profitability (Z). From the results of Path Analysis we know that there was a direct relationship between the independent variable X_1 (Employee Job Satisfaction) → Z (Profitability) amounted to 0.171. Indirect relationship between X_1 (Employee Job Satisfaction) → Y (Customer Satisfaction) → Z (Profitability) was $0.171 \times 0.677 = 0.369$. Therefore, the total relationship between independent variable to dependent variable was $0.171 + 0.369 = 0.54$. It meant that customer satisfaction that was assumed as intervening variable can be proven as true intervening variable because the total value of indirect relationship from independent variable (X_1) through the intervening variable (Y) then to dependent variable (Z) was 0.369; bigger than direct relationship from independent variable (X_1) directly to dependent variable (Z) that was amounted to 0.171.

Service Quality (X_2) → Customer Satisfaction (Y) → Profitability (Z). From the results of Path Analysis we know that there was a direct relationship between the independent variable X_2 (Service Quality) → Z (Profitability) amounted to 0.194. Indirect relationship between X_2 (Service Quality) → Y (Customer Satisfaction) → Z (Profitability) was $0.459 \times 0.677 = 0.311$. Therefore, the total relationship between independent variable to dependent variable was $0.195 + 0.311 = 0.505$. It meant that customer satisfaction that was assumed as intervening variable can be proven as true intervening variable because the total value of indirect relationship from independent variable (X_2) through the intervening variable (Y) then to

dependent variable (Z) was 0.311; bigger than direct relationship from independent variable (X_2) directly to dependent variable (Z) that was amounted to 0.195.

CONCLUSION AND SUGGESTIONS

Based on the findings and discussion of the research that had been described, it can be concluded that employee job satisfaction and service quality positively affect the profitability of the Bank but there is a finding that customer satisfaction can increase the influence of job satisfaction and employee service quality to the profitability of the Bank. Based on these findings, it is suggested that further researchers develop this research by examining other factors that may influence profitability. Moreover, the addition of the number of samples is also needed to be taken into account considering the large number of respondents and other companies. Future researchers may consider other methods to examine employee job satisfaction, for example by using in-depth interviews to the employees, so that the information can be more varied than using questionnaire as the research instrument in which the answers are available on the sheets.

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THE DEVELOPMENT OF REGIONAL EXPANSION APPARATUS RESOURCE PLACEMENT IN INDONESIA

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ABSTRACT

This study aimed to describe, analyze and deeply assess the implementation of regional apparatus resource development into new areas of regional expansion in Indonesia. The research was conducted by using qualitative approach, specifically, case study by analyzing descriptive data in the form of interviews, as well as analyzing valid data documentation to support the research problem. This research was conducted in the new area of Pangandaran Regency of West Java, Indonesia. The results of the research could map that there were still very few development programs of regional and apparatus expansion and it had not become the priority program after the expansion; the target of improving the quality of the apparatus resource appeared not to be the main measure, but rather, the main measure was the structuring of the apparatus and the issue of the regional office infrastructure; the instruments used in the development and training process were also less supportive, it caused many stagnant employees did not understand about new issues in the dynamics of work; apparatus development through training activities and scientific forums (seminars, scientific discussions), workshops and improvements was obstructed due to budget constraints.

KEY WORDS

Development, apparatus, resource placement, regional expansion.

In the context of regional expansion, the theoretical base can be seen in decentralization and autonomy, such as the opinion of Cheema and Rondinelli (1983) who stated that decentralization could be a way to oversee limitations due to centralized planning by delegating a number of authorities, especially in development planning of local officials working in the field. It could also be a way to know the problems faced by the community, so that the planning could be done in accordance with the interests of people in heterogeneous areas. In addition, decentralization can avoid complicated bureaucratic channels as well as highly structured procedures from the central government.

According to the interpretation of Thoha (2012), decentralization was the delegation of authority; and in its application to the autonomous region, the level of autonomy of a region was measured from decentralized affairs. The more the authority and the decentralized affairs in a region, the more the area became autonomous. On the other hand, in Law No. 23 Year 2014 on local government, it was mentioned that decentralization was the transfer of government authority by the government to the Autonomous Region within the framework of the Unitary State of the Republic of Indonesia.

In addition, the decentralization policy which gave greater authority to the autonomous regions in regulating and managing their household affairs, initially arose because of the realization of democratization of regional governance, which has been centralized. The policy of giving greater authority to region was intended to better empower and establish the region, both in improving service and increasing income and prosperity of society (Fahmi: 2009: 90).

According to Cheema (1983: 35) the division of authority as well as the availability of adequate space to interpret the authority given by the lower government units was a marker

of decentralization. Decentralization and regional autonomy were crucial in determining the progress among the people, not merely from the central government officials. One of them was the arrangement and development of regional apparatus resources on the quality and the performance of bureaucracy in the regions. In this regard, Werner and Desimone (2009: 4) mentioned the importance of human resource development as a series of systematic and planned activities designed by the local government agency to provide members with the opportunity to learn the skills needed to fulfill current and future employment requirements.

According to Sharif (2013), the development of a nation required the support of natural resources and human resources. Among these two resources, the resource that was more important in determining the development success was human resources. If a country had skilled and qualified human resources, it would be able to manage a limited number of natural resources. On the other hand, the findings of the Ministry of Home Affairs in 2014 showed that a key to a reliable and qualified local human resources (bureaucracy) was the improvement of the local organizers' quality to be capable in providing excellent service to the community.

Society inputs were utilized in local bureaucracy of human resource development techniques and provided reports in the context of public accountability to the community. Instead, the community in this case, needed to be assured that the performance and accountability of government apparatus had changed in a positive direction in terms of attitude, like motivating the participating people to improve the performance of development. The overall effort to realize the human resources as a reliable and qualified local bureaucracy required the management of human resources in accordance with local environmental conditions. When it was associated with the expansion of human resource capacity development areas (local apparatus), it was very important to deal with and overcome the problems that occur in the regional expansion area.

In general, the problems of regional expansion area that occurred in Indonesia showed complicated problems, including the quality of regional apparatus and regional institutions in implementation that was not in accordance with the new paradigm of good governance. For example, the ignorance of the regional expansion area in making the vision, mission, and organizational areas to work optimally, but important factors after becoming an autonomous region was the bureaucracy quality and strong local institutions.

Several problems of regional expansion from *Ministry of Home Affairs (Kemendagri)* findings in 2014 consisted of:

- The number of new autonomous regions had implications for the increasing amount of new autonomous regional development funds allocated from the *State Budget (APBN)*. In 2002, *General Allocation Fund (DAU)* allocated Rp. 1.33 trillion; in 2003, Rp. 2.6 trillion; in 2010, Rp. 47.9 trillion, and in 2014, it allocated 76.9 trillion.
- Some facts encountered including the existence of new autonomous regions which turned out to have a very small population. In fact, there was an autonomous district of the new district that only had a population of less than 12,000 inhabitants.
- The performance of regions and apparatus, the issue of regional readiness in running the autonomy and regional division turned out to show the poor performance of most of the regions; only 20 percent which resulted in successful expansion, 80 percent was less successful and caused many problems.
- The quality of a local government apparatus resource was far from expectations, both in terms of education, experience and standard of law rules. (MoNE Review findings, 2014).

In the context of the problems above, this study examined the development of new regional expansion apparatus resources. It was hoped that this study would reveal the exact problems and solutions in developing the regional apparatus resources in the expansion area in order to be able to work optimally, to run good government, to improve the welfare of the people and to improve the progress of the regional expansion.

LITERATURE REVIEW

The phenomenon of the emergence of the idea of regional expansion area that occurred in almost all provinces in Indonesia had been unstoppable. Some sub-districts within a region turned into a district/city that separated themselves from their parent districts. There were also several districts/cities united to form a new province. The symptoms of the emergence of the idea of regional expansion had been successfully realized, but some provinces were still experiencing obstacles in realizing the idea of regional expansion.

According to Ferrazzi (2007:19), regional expansion could be seen as a part of the process of regional or territorial reform or administrative reform, namely the arrangement in the size and hierarchy of local government to achieve the goals, both for political and administrative purposes. Generally, regional arrangements consisted of regional expansion, regional amalgamation and regional deletion. According to Ferrazzi, the grand strategy of optimal regional autonomy did not stop at determining how many autonomous regions were ideal for a country, but more than that, it should be able to answer the question of what exactly the essence of regional autonomy was concerned. Only then did it seek to answer for what purpose did the expansion into the region occur (in the context of the territorial reform).

The context of regional expansion synergized with decentralization, and regional autonomy was the will of regional reform and demands, but in practice, it was not proportional to the expectations that were the goals of the regional expansion policy. According to Tryatmoko (2010:34), the issue of local governability was not only characterized by the weakness or the division of regional expansion results, but also characterized by the weakness of the community's ability to support local political and economic development. Tryatmoko stated further that the issue of the effectiveness of government policy in governing involved efficiency and legitimacy. On the other hand, the issue of consent towards the government included involving the community in decision making and supervision of government nets. In this case, the expansion of the region should receive attention, the supervision should continue to be done, and the implementation of the evaluation should be conducted gradually.

In an effort to answer the readiness of the newly created autonomous region, we could refer to Keban's opinion (2000: 76) about the effort to strengthen the ability of regency and city, both as an institution and as an individual apparatus which referred to the development of capabilities covering: (1) policy formulation; (2) organizational design; (3) management approaches (4) morale and work ethic, and (5) accountability. While individual development consisted of: (1) the ability to perform work according to the demands on the job; (2) the ability to face the future; (3) the coaching motives to work in line with job demands; (4) the development of personality in work.

Furthermore, in the context of regional expansion area development, some important human resource aspects that must exist consisted of: able to work optimally, professionally, intelligently, quickly and supported with high level of experience and accountability. The new autonomous region required the performance of apparatus that work properly and quickly. In this case, according to Sachs (2004), economics professor from Harvard University, who worked extensively in the World Bank, IMF and UNDP Millennium Development Goals, assigned the Human Resource category to three levels:

- Technological innovator, a human resource who lived in countries with advanced technological skills such as the United States, Britain, Europe and Japan,
- Technological adopter, a human resource who occupied a country with high enough technological capability gained by adopting, imitating, and even stealing the technology from level 1.
- Technological excluded, was a country whose human resources were only able to become technological consumers offered by level I and II, so these countries only acted as a place of marketing alone.

Along with the opinion of Sachs, in general, the local human resources of bureaucracy in Indonesia can be categorized into level III. In order to produce human resources capable of competing in global competition, local human resource management needed to catch up

with central human resources, as well as in other neighboring countries by increasing the opportunities and capabilities of minimal resources to a higher level.

Human resources in human resource management were deemed to have the knowledge and skills to manage their strengths (available resources), exploit opportunities, overcome weaknesses and threats encountered, and have capacity building and accountability. In order to prepare human resources with superior competence (knowledge, skills, and attitude), human resource management must focus on:

- The professionalism and accountability of local actors.
- Professional, managerial/executive development, both in government and private.
- The role of society in shaping positive perceptions of development to be creative, innovative, and hard worker (Sulistiyani, 2011:76).

The development of human resources in an organization was important. Investment in human resource development was an expenditure aimed at improving the productive capacity of people. With good human resources, business organizations would have the competitive strength. The competitive advantage was a unique position developed by companies in the face of competitors, even organizations can outperform them. For that reason, it needed to translate various strategies, policies and practices of human resource management into a sustainable competitive advantage (Sulistiyani, 2011:77).

The development of the apparatus could be done through orientation, training, and education. Orientation could be either a simple introduction to an existing employee, or it might be a lengthy process, which included providing information on personnel policies (working conditions, wages and social security) working procedures, general/ historical descriptions, company nature, and benefits that new employees got. There were two types of orientation, namely: 1) Formal Orientation: This orientation contained information about various laws, wages, working hours, leave, allowances, job evaluation, disciplinary actions, what to do if there were grievances, promotions and placements, trade unions, and others. 2) Informal Orientation: This orientation was supportive or contradictory, but always extended the knowledge of new workers about the agency and the people who worked in it. Informal orientation might be nonverbal; new workers would learn about the agency by seeing their experienced colleagues in dealing with clients, between each other, and with their supervisors (Noija, 2007: 86).

The problem of handling human resources in the area, especially human resource apparatus was because the Key Performance Indicators was not clear. In addition, the Key Performance Index was not standardized. This lack of clarity and impartiality could be attributed to the lack of a standard measure to the achievement of Knowledge, Skill, Expertise, and Behavior, which were the attributes of competence. The constraints of the region related to human resources ranged from:

- Civil servants were not professional.
- The lack of human resource quality (youth and innovative society).
- The less pro-active private only saw close-range profits, requiring political commitment from the executive and legislative.
- The absence of knowledge-based competition.
- The lack of knowledge-based learning organization knowledge management.
- Unintegrated system approach.
- The management of regional development only relied on the exploitation of the use of natural resources without thinking about human resources.
- Regional development management did not explore the community participatory climate as part of local human resources. (Sulistiyani, 2011: 88).

It should be noted that the era of regional expansion in Indonesia should be supported by the development of an empowered regional apparatus resource, sustainable programs, targeting regional apparatus with knowledge and skills, competencies, work ethics (discipline of work), work conditions (good work culture) to run the bureaucracy and the implementation of good, strong, advanced and optimal governance in accordance with the purpose of regional expansion.

METHODS OF RESEARCH

This research applied qualitative approach with descriptive analysis method. This qualitative approach allowed the emergence of subject to subject communication and a shared understanding of social phenomena by researchers and participants (Cresswell, 1995; Babie, 2004). A qualitative methodology was a basic methodology in government science research (Garna, 2001). According to Gordon (1991), Strauss and Corbin (1997), qualitative research was widely used in social research whereby it reflected the study of community life, history, behavior, as well as on organizational functionalization. The qualitative approach aimed to collect and to analyze the descriptive data in the form of both writing and oral expression of people as well as observed behavior. Moreover, the research problem would be answered through the explanation of research questions based on the data in the field that had been interpreted with the theory approach that was formulated in the debatable theory. There were at least two fundamental factors that must be done by a researcher for various research experiences. Firstly, constructing arguments for obtaining and selecting data, and; secondly, interpreting and summarizing the findings. This research was purposely designed to be able to "get the data once it was interpreted", based on the research problems without ignoring the consideration to minimize the subject's refraction sensitively.

Primarily, the data consisted of the results of direct observation at the research location including the data on regional performance reports, Central Bureau of Statistics (*BPS*), reports on each Regional Government Agency (*SKPD*), Ministry of Home Affairs' and Governors' decisions regarding the decisions of the regent, regent's decree (*SK*) on the determination and arrangement of *SKPD*, decree on echelon regulation, determination decree of *SKPD*, placement decree of employees' area, the government concerning the regional structure.

Meanwhile, the secondary data consisted of the results of direct interviews with some sources of information (participants) that were involved in the research problem, which consisted of Regent, Secretary, Expedition Presidents, Head of *SKPD* agency, several representatives of relevant officials, Community Leader, Academicians, NGOs, and citizens. Lastly, the other source of data came from District archives, District conditions before and after the regional division, the District original documents, and other data related to the research problem.

The scope of this study was Pangandaran Regency, West Java Province. Pangandaran was chosen as the scope of the study due to the wide region of Ciamis District (Bappeda (*Development Planning Agency at Sub-National Level*) Report, 2017).

Data collection techniques that would be used in this research was by applying semi-structured interviews such as observing community participation (participant observation), reviewing documents based on sources and data types, conducting field reviews with direct observation regarding the research issues and social interactions. The words were arranged by action while comparing written sources (the documents), field notes, maps and statistical data. Furthermore, the data collected would then be processed through the following activities: (1) Processing through the activities of the preparation of units. (2) Processing through the categorization by determining the categories of the obtained data and then put the data in their respective categories.

The data analysis in this study revealed what data that still needed to be discovered, what hypotheses that needed to be tested, what questions that needed to be answered, and what methods should be used to find new information and what errors should be corrected (Nasution, 1988). Data testing was done by using the triangulation technique, by doing check, recheck, and cross-check to the obtained data (Moleong, 1998, p.178). Triangulation technique was a data matching procedure through several different sources to obtain the valid data. It could be done on several important aspects of data such as data sources, methods, investigations and theories. Triangulation that used the source was done by (1) comparing the research data with the result of the interview; (2) comparing what several people have said in public with what they have said personally; (3) comparing what people

say about the research situation with what people say all the time; (4) comparing one's statement and perspective with the opinions and views of others; (5) comparing the results of interviews with the contents of a related document. The checked method was done by synchronizing the first data with the second data, synchronizing again with the third data and so on with the first data, respectively. Technically, each of these data would be cross-checked with the other data to ensure the accuracy and the veracity of the data.

RESULTS AND DISCUSSION

The importance of human resources was getting the attention from various parties, whether coming from the public sector or private sector. Various seminars, trainings, and courses, workshops, and the like, all emphasized human resource attention and strategic programs. All parties recognized the importance of human resources, especially the regional apparatus to meet democratic demands and good governance. Moreover, the newly expanded new districts would be a condition of the region to succeed in the implementation of government and in the performance of the task.

The development of education, training, and seminars on learning tasks became important in the development of local apparatus resources in new districts. The role of education in strengthening regional institutions was a step ahead of other activities, and it was recognized by experts that education was the most important aspect in the future. With a rational educational step and professional judgment, it would produce bureaucratic apparatus with adequate qualifications and competence. Human resource planning was essential to ensure the availability of the right workforce to occupy the right position and occupation at the right time, all of which were directed towards achieving the outlined goals and objectives (Siagian 1998:41).

The implementation of regional apparatus development in Pangandaran Regency seen from the level of education was still very low. As shown in the following table:

Table 1 – Education Level of Regional Apparatus in Pangandaran Regency

| No | Rank / Classification | Quantity | Education | | | | | | | | | Quantity |
|-------|-----------------------|----------|-----------|-----|--------|-----|------|----|-----|-----|----|----------|
| | | | S3 | S2 | S1/ D4 | D3 | D2 | D1 | SMA | SMP | SD | |
| 1. | IV/c | 4 | | 3 | 1 | | | | | | | 4 |
| 2. | IV/b | 307 | | 33 | 141 | 10 | 123 | | | | | 307 |
| 3. | IV/a | 1,934 | 1 | 116 | 870 | 48 | 843 | 11 | 45 | | | 1,934 |
| 4. | III/d | 239 | | 14 | 122 | 22 | 22 | 10 | 49 | | | 239 |
| 5. | III/c | 232 | | 21 | 98 | 38 | 5 | 9 | 61 | | | 232 |
| 6. | III/b | 295 | | 14 | 146 | 17 | 2 | 4 | 112 | | | 295 |
| 7. | III/a | 357 | | | 286 | 31 | 4 | 1 | 35 | | | 357 |
| 8. | II/d | 76 | | | 4 | 38 | | | 27 | 7 | | 76 |
| 9. | II/c | 169 | | | 1 | 25 | 73 | | 46 | 22 | 2 | 169 |
| 10. | II/b | 177 | | | 6 | 1 | 10 | 18 | 130 | 10 | 2 | 177 |
| 11. | II/a | 67 | | | | | | 1 | 41 | 11 | 14 | 67 |
| 12. | I/d | 20 | | | | | | | 1 | 19 | | 20 |
| 13. | I/c | 11 | | | | | | | | 10 | 1 | 11 |
| 14. | I/b | 17 | | | | | | | | | 17 | 17 |
| Total | | 3,905 | 1 | 201 | 1,676 | 230 | 1082 | 54 | 547 | 79 | 36 | 3,905 |

Source: Personnel Data of Pangandaran Regency, 2017.

From the data above, it showed that the limitation of regional apparatus and education level in the Regional Government of Pangandaran Regency was dominated by undergraduate and D3 students in all ranks. Furthermore, there was also education level of D1 and SMA. In this case, education was very influential on the performance and work ethic for related institutions in the Regional Government of Pangandaran Regency.

The education level of the regional apparatus of Pangandaran Regency was not adequate and even because Pangandaran Regency was the result of the expansion of Ciamis Regency. Therefore, all regional apparatuses was an overflow from the Parent Regency. For new autonomous regions, it was very difficult to find the ideal standardization

of education. In addition, senior officials who moved from Ciamis to Pangandaran experienced obstacles to the requirements of moving the workplace, as well as the rank which was in accordance to the rules.

There were still very few training programs in Pangandaran Regency. The target of improving the quality of the apparatus resource appeared not to be the main measure, but rather, the main measure was the bureaucracy arrangement and the issue of the regional office infrastructure. The instruments used in the development and training process were also less supportive, it caused many stagnant employees did not understand about new issues in the dynamics of work. Therefore, it was not surprising that the frequency and the number of employees attending the training did not significantly affect the performance improvement. One of the apparatus development activities in Pangandaran Regency Government was education and training program (*DIKLAT*). It was done formally by government education and training program institutions, as well as informally through workplace training conducted by management as part of leadership function.

The results showed that education and training (*DIKLAT*) already ran well, but it needed to be done gradually. In addition to the education and training of the positions, the development of apparatus personnel with training methods/development outside the workplace was done by involving the apparatus in activities such as in the activities of scientific forums (seminars, scientific discussions), workshops and improvement. During the year of 2012-2015, there were several apparatus training activities in the form of technical, structural and functional training. The apparatuses also engaged in certain scientific forums and workshops or improvement to develop their knowledge, insights and skills necessary to support the smooth execution of work tasks. Overall, it was illustrative that on-the-job training methods implemented in the context of developing the quality of human resources focused more on three approaches: job rotation/job title, planned work activities, and coaching. On the contrary, it had less focus on internship and apprenticeship.

The data showed that in fiscal year of 2012-2015, the budget available for apparatus development through training and improvement in local government of Pangandaran Regency was only available to Rp. 225,000,000 (two hundred twenty five million rupiah). The form of activities was as follows:

Table 2 – The Form of Regional Apparatus Development Activities
2012-2015 of Pangandaran Regency

| No. | Activity | Participants | Description |
|-----|-------------------------|--------------|--------------------------|
| 1. | Structural Training | 10 people | Graduated S2 and Echelon |
| 2. | Bureaucracy Improvement | 5 people | Head of SKPD |
| 3. | Financial Upgrades | 5 people | Head of Finance |
| 4. | Seminar and FGD | 4 people | Education Authorities |
| 5. | Limited Discussion | 4 people | Galuh University |
| 6. | Leadership Training | 10 people | Ministry of Home Affairs |

Source: *Bappeda (Development Planning Agency at Sub-National Level) of Pangandaran Regency, 2017.*

The data above showed that the development of Pangandaran local government apparatus was very limited. It was limited in budget and activities to strengthen the regional apparatus to work well and have a work ethic that was measured in accordance with the purpose of the expansion of Pangandaran Regency. Improving the quality of the apparatus was not as easy as reversing the palm of the hand, improving the quality of apparatus resources should be done gradually, periodically and was done through post-training mentoring. Human resource development of the apparatus was one of the functions in human resource management that had a very important role in order to achieve organizational goals, which in reality, aside from requiring a very expensive investment, it did not easy to implement it effectively. The education and in-service training was the main instrument used in the framework of apparatus resource development. However, there were obstacles or constraints, which was budget problems. In fact, further studies and improvement for the regional apparatus were also not separated from the budget.

CONCLUSION

The inception of the region into an autonomous region required the role of resource personnel who were reliable, intelligent, innovative, competent, and educated and well-rounded. In this context, it required the development of regional apparatus resources affecting the performance and improvement of regional expansion areas. Pangandaran Regency has run its regional development apparatus for 4 (four) years. Yet, there were still very few training programs. The target of improving the quality of the apparatus resource appeared not to be the main measure, but rather, the main measure was the bureaucracy arrangement and the issue of the regional office infrastructure. The instruments used in the development and training process were also less supportive, it caused many stagnant employees did not understand about new issues in the dynamics of work. Therefore, it was not surprising that the frequency and the number of employees attending the training did not significantly affect the performance improvement.

One of the apparatus development activities in Pangandaran Regency Government was education and training program (*DIKLAT*). It was done formally by government education and training program institutions, as well as informally through workplace training conducted by management as part of leadership function. The research data showed that the development of Pangandaran Regency Government apparatus was very limited, both limited in budget and activities to strengthen the regional apparatus.

In implementing good governance in new regional expansion, the governments need to improve the development program for apparatus resources appropriately, sustainably, and supported by the availability of sufficient budget. In this case, local government needs to develop short, medium and long-term plans, so that the regional apparatus resources can be better, qualified, professional, and can improve local government's performance.

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THE EFFECT OF CREDIT RISK ON BANK PROFITABILITY WITH EFFICIENCY AS THE INTERVENING VARIABLE

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ABSTRACT

This research is based on a bank, a law entity in which one of the main activities is lending. This study aims to analyze the credit risk, i.e. non-performing loan and allowance for impairment losses towards the profitability represented by bank return on asset with operating expense to operating income as the intervening variable. The technique of data analysis is statistical descriptive analysis of research variable, multiple regression analysis and path analysis which aim to measure the effect of intervening variable. The results of this study show that Non-performing loan ratio has positive and significant effect on operating expense to operating income efficiency ratio, ratio allowance for impairment losses has positive, but not significant effect on operating expense to operating income efficiency.

KEY WORDS

Credit risk, profitability, efficiency, intervening variable.

Bank is the largest financial institution in the world which main activities are funding and fund distribution in a form of credit for debtors (lending). Bad credit service and neglecting prudential principles can contribute to bank lose since the credit is highly risky which can affect the bank's performance; therefore, banking industry should be able to mitigate credit risk. The bank profitability development in Indonesia, from 2013 up to 2015, decreases because of the increase of Operating Expense to Operating Income and problem loans every year. Besides, domestically economic development in 2015 slowed down to 4.79% and the high lending on low quality loan causes the decrease of bank profitability. In this case, the credit risk scale can be seen in a form or Non-Performing Loan (NPL) ratio.

In Indonesian bank regulation which is made based on Statement of Financial Accounting Standard (SFAS) No.50 and 55, Allowance for Impairment Losses should be formed in order to overcome the lose risk; the higher funds being proposed to cover losses because of loan problems the higher Operating Expense to Operating Income efficiency. As a result, the profit is decreasing. These NPL and Allowance for Impairment Losses ratio is then used to measure the credit risk. The management of risk management, especially in good credit risk, will affect the profitability of a bank in which profitability used is Return on Asset (ROA) ratio.

Moreover, the increase of loan problems will affect the decrease of the ability in gaining profit. However, if it is followed by good efficiency management, it can affect the increase of profit. Regarding to the result of the previous studies, for instance a study conducted by Zou and Li (2014) who tested variable of Capital Adequacy Ratio (CAR) and Non-Performing Loan (NPL) to measure credit risk, and tested its profitability using Return on Asset (ROA) ratio and Return on Equity (ROE), stated that NPL affects significantly on ROA and ROE, whereas CAR does not significantly affect ROA and ROE; therefore, it can be concluded that the credit risk (NPL) positively affects bank profitability. On the other hand, Noman et al. (2015) states in their study that there is negative and significant impact on credit risk toward bank profitability in Bangladesh.

The main objective of this research is to analyze the effect of credit risk on bank profitability across efficiency as the intervening variable. This study uses credit problem Non-Performing Loan (NPL) and Allowance for Impairment Losses as the indicator variables representing credit risk, efficiency using Operating Expense to Operating Income, and using Return on Asset (ROA) ratio to measure profitability. Then, the research problems are: (1)

does Non-Performing Loan (NPL) have positive, significant effect on Operating Expense to Operating Income efficiency ratio?; (2) does Allowance for Impairment Losses have positive, significant effect on Operating Expense to Operating Income efficiency ratio?; (3) does Non-Performing Loan (NPL) have negative, significant effect on profitability?; (4) does Allowance for Impairment Losses ratio have negative, significant effect on profitability?; (5) does Operating Expense to Operating Income efficiency have negative, significant effect on profitability?; (6) does Non-Performing Loan (NPL) have negative, significant effect on profitability with Operating Expense to Operating Income as the intervening variable?; (7) does Allowance for Impairment Losses ratio have negative and significant effect on profitability with Operating Expense to Operating Income as the intervening variable?

THEORETICAL FRAMEWORK

Credit Risk Theory. Fight (2004) states that credit refers to all credit types which should be returned with the interest by debtors based on the agreed agreement. In giving the credit, bank should be very selective and based on either internal or external applied regulations. Credit risk is a risk in which debtors fail to pay or they cannot fulfill their financial obligatory as it is agreed, (Hu, 2012). In this case, high credit risk of a bank shows the quality of credit level which is decreasing and it is likely to have higher default, (Jesus and Gabriel, 2006). The credit risk control aims to control all bank activities and bank credit activities so that it will not cause losses that exceed bank's ability or danger the continuity of the bank, (Berger and Udell, 1994). To avoid the loan problem, internal control in giving loan should be done.

Non-Performing Loan (NPL). Non-Performing Loan (NPL) or loan problem is the comparison between the total of loan problem and total credit given. The credit risk obtained by a bank is one of the risks of a bank caused by uncertainty in its return or caused by incompleteness of credit payment given by bank to debtors (Fight, 2004). In this case, the higher NPL or loan problem of a bank is the higher provision of earning assets. As a result, it can distract the performance of a bank, (Louzis et. al., 2012). Moreover, high NPL shows the poor quality of credit which can cause the number of loan problem is higher and cause bank losses in its operational activities which finally gives impact on the decreased profit (ROA) obtained by the bank (Kasmir, 2008).

Allowance for Impairment Losses. In 2016, there was a revision on the Statement of Financial Accounting Standards (SFAS) No.55 stating that Allowance for Doubtful Accounts was changed into Allowance for Impairment Losses. Allowance for Impairment Losses is a kind of proposal which should be provided by a bank with particular number of percentage which depends on nominal based on the classification of the quality of productive assets, (Hasan and Wall, 2004). If the loan from debtors decreases (impairment), a bank has to create funds or reserved funds for the loan. In this case, the result of credit evaluation is based on the decision made by every bank. Thus, each bank has its policy in forming reserved funds for the loan. Bank should consider of PPA of the productive assets and Allowance for Impairment Losses formed. If the calculation of PPA of productive assets is greater than of Allowance for Impairment Losses formed, bank should consider the difference which becomes the decrease of the modal. On the other hand, if the calculation of PPA of productive assets is less than the Allowance for Impairment Losses formed, bank is allowed to neglect PPA to decrease the modal, (Christensen et. al., 2008).

Operating Expense to Operating Income. Operating Expense to Operating Income belongs to earnings ratio. According to Kuncoro and Suhardjono (2002), "the success of a bank based on the quantitative evaluation towards bank earnings can be measured using operating expense on operating income". Moreover, Lukman (2005) says that "operating expense ratio is used to measure the level of efficiency and the ability of bank to do their operational activities". Operating Expense to Operating Income ratio is also well-known as efficiency ratio which is used to measure bank management ability in controlling Operating Expense to Operating Income. The lower the ratio is the more efficient the operating expense which is spent by a bank is; therefore, it can affect the increase of the ability of the bank in gaining profit.

Profitability. Profitability is an ability of a company in gaining profit; the better profitability of a bank is the better the bank is in operating their business. According to Kasmir (2008), "Profitability ratio is a ratio to judge the ability of a company in gaining profit". Moreover, Irawati (2006) states that "profitability ratio" is a ratio to measure the efficiency of company's assets use or the ability of a bank to gain profit in particular period (commonly in semester, quarter, and many more) to see the ability of a company in operating the business efficiently". In this study, the profitability used is Return on Asset (ROA) ratio which refers to the comparison between the profit before tax payment and the average of total assets. The higher Return on Asset of a bank is the higher profit gained and the better use of the assets, (Malintan and Herawati, 2012).

Hypothesis Development. The basis of this study is the risk of bank management, especially credit risk. The researcher conducts a study about the relationship between credit risk and profitability with affectivity as the intervening variable. To achieve it, the researcher analyzes the effect of relationship between two indicators to represent or measure risk credit i.e. Non-Performing Loan (NPL) and Allowance for Impairment Losses and one indicator to represent profitability i.e. Return on Asset (ROA) ratio and the efficiency using Operating Expense to Operating Income as the intervening variable.

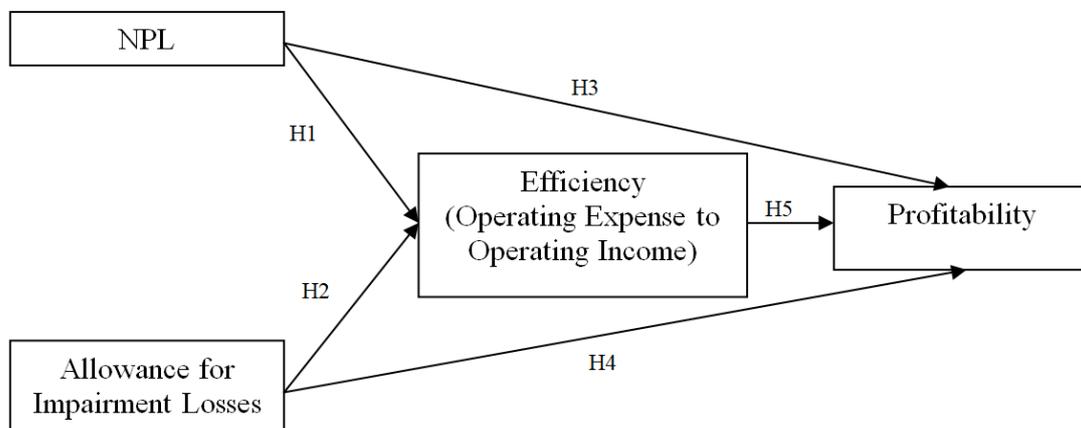


Figure 1 – Theoretical framework

Hypothesis 1: Non-Performing Loan (NPL) ratio has positive, significant effect on Operating Expense to Operating Income efficiency ratio.

Hypothesis 2: Allowance for Impairment Losses ratio has positive, significant effect on Operating Expense to Operating Income ratio.

Hypothesis 3: Non-Performing Loan (NPL) ratio has negative, significant effect on profitability.

Hypothesis 4: Allowance for Impairment Losses ratio has negative, significant effect on profitability.

Hypothesis 5: Operating Expense to Operating Income efficiency ratio has negative, significant effect on profitability.

Hypothesis 6: Non-Performing Loan (NPL) ratio has negative, significant effect on profitability across Operating Expense to Operating Income efficiency as the intervening variable.

Hypothesis 7: Allowance for Impairment Losses ratio negatively and significantly affects profitability across Operating Expense to Operating Income as the intervening variable.

METHODS OF RESEARCH

This research is an explanative study which is a kind of research design aiming to explain variables which are being observed and the relationship between one variable to

another variable. The characteristic of this study is replicative; therefore, the result of hypothesis testing should be supported by previous studies and replied many times within another condition with similar situation. This study is about the effect of credit risk on bank profitability with efficiency as the intervening variable. The population of this study is 18 banks involving in Commercial Bank Based on Business Activities 3 within period study 2013-2015. Bank involving Commercial Bank Based on Business Activities 3 is not only a complex bank, but it is also a bank contributing a lot to the increase of Public Bank Profit gaining. The sampling technique used is a purposive sampling technique in which samples are chosen based on some considerations, such as: (1) the bank should involve in Commercial Bank Based on Business Activities 3 within 2013-2015 and having total asset more than 100 Billion in 2015, (2) the bank should have complete data which relates to the variables use in the study i.e. Non-Performing Loan (NPL), Allowance for Impairment Losses, Return on Asset (ROA), and Operating Expense to Operating Income.

Table 1 – Name of Banks Used as Research Sample

| No | Name of Bank | Total Asset (in millions) |
|----|------------------------|---------------------------|
| 1 | CIMB Niaga Bank | 233.235.947 |
| 2 | Permata Bank | 182.411.535 |
| 3 | Bank Tabungan Negara | 171.807.592 |
| 4 | Panin Bank | 169.140.233 |
| 5 | Danamon Indonesia Bank | 157.860.188 |
| 6 | Maybank Indonesia Bank | 148.933.747 |
| 7 | OCBC NISP Bank | 120.480.402 |

Source: Biro Riset Info bank, 2016 processed data.

Technique of data analysis used in this study is statistical descriptive analysis on research variables and Multiple Regression Analysis (MRA). In this study, there are two independent variables, one dependent variable, and 1 intervening variable. The independent variables in this study are Credit risk involving Non-Performing Loan (NPL) and Allowance for Impairment Losses. The dependent variable is bank profitability involving Return on Asset (ROA) ratio. The last, the intervening variable is Operating Expense to Operating Income. In this case, the steps of doing Multiple Regression Analysis (MRA) are as the following:

Partial Determination Coefficient (r^2). The purpose of this test is to measure the contribution of dependent variable partially in affecting dependent variable.

- r^2 value is between 0 and 1 ($0 < r^2 < 1$)
- The largest r^2 value shows dominant variable in explaining or affecting dependent variable.

If r^2 is 0, there will be no impact contributed by independent variable on dependent variable. On the other hand, if r^2 is 1, the percentage of effect contribution given by independent variable to dependent variable is perfect. Besides, this determination coefficient (r^2) can be used to know the change of the percentage of independent variable (X) which is caused by dependent variable (Y).

Doing Partial Testing (t-test). T-test is used to examine whether partially credit risk in MRA model affects bank profitability significantly. Besides, it will also compare the value of $t_{\text{calculation}}$ and t_{table} or see P value of each variable. Therefore, it can be found whether the hypothesis is significant or not. If $t_{\text{calculation}} > t_{\text{table}}$ or Sig $< .05$, it can be concluded that H0 is rejected, whereas H1 is accepted which means that credit risk partially affects bank profitability. On the other hand, if $t_{\text{table}} < t_{\text{table}}$ or Sig $> .05$, it can be concluded that H0 is accepted, whereas H1 is rejected which means that credit risk partially does not affect bank profitability.

Testing on Intervening Variable (Path Analysis). Path analysis is used because there is a possible relationship among variables with linier model. Efficiency is used as the intervening variable because the effect of NPL and Allowance for Impairment Losses on profitability can relate conceptually with efficiency ratio. Theoretically, the effect of NPL and Allowance for Impairment Losses on profitability can be seen directly, but it can be seen

through the efficiency too. In this case, the level of confidence used is 95% and the alpha is 5%. The analysis technique used to examine the existence of intervening is structural equation system with path analysis which can be seen as the following.

Structural equation to test the first hypothesis:

- $Y_1 = \alpha_{11}.X_1 + \alpha_{12}.X_2 + eY_1$
- $Y_1 =$ efficiency
- $X_1 =$ NPL
- $X_2 =$ ALLOWANCE FOR IMPAIRMENT LOSSES
- $\alpha_{11} =$ path coefficient X_1 to Y_1
- $\alpha_{12} =$ path coefficient X_2 to Y_1
- $eY_1 =$ path coefficient of error variable of the first model

Structural equation to test the second hypothesis:

- $Y_2 = \alpha_{21}.X_1 + \alpha_{22}.X_2 + \alpha_1.Y_1 + eY_2$
- $Y_2 =$ profitability
- $Y_1 =$ efficiency
- $X_1 =$ NPL
- $X_2 =$ ALLOWANCE FOR IMPAIRMENT LOSSES
- $\alpha_{21} =$ path coefficient X_1 to Y_2
- $\alpha_{22} =$ path coefficient X_2 to Y_2
- $\alpha_1 =$ path coefficient Y_1 to Y_2
- $eY_2 =$ path coefficient of error variable of the first model

The calculation of indirect effect to test the third hypothesis:

- Indirect effect X_1 to Y_2 through $Y_1 = \alpha_{11} \times \alpha_1$
- Indirect effect X_2 to Y_2 through $Y_1 = \alpha_{12} \times \alpha_1$

RESULTS AND DISCUSSION

Based on the report of quarter financial report used in the sample of this study, there are Non-Performing Loan (NPL) and Allowance for Impairment Losses, the Operating Expense to Operating Income and Return on Asset (ROA) ratio. The minimal, maximal, mean, and standard deviation (δ) value of each variable can be seen in Table 2.

Table 2 – Descriptive Statistic

| Variable | N | Minimum | Maximum | Mean | Std. Deviation |
|---------------------------------------|----|---------|---------|---------|----------------|
| NPL | 84 | 0.00 | 3.83 | 1.3740 | 1.03159 |
| Allowance for Impairment Losses | 84 | 0.89 | 3.74 | 1.6588 | 0.66043 |
| Operating Expense to Operating Income | 84 | 69.75 | 98.86 | 84.5313 | 6.62351 |
| ROA | 84 | 0.16 | 4.93 | 1.6175 | 0.79823 |
| Valid N (list wise) | 84 | | | | |

Determination Coefficient (r^2). Determination coefficient (r^2) is prediction ability of each variable used, such as the percentage of effect contributing NPL ratio on ROA is 6.9%, Allowance for Impairment Losses ratio ROA is 0%, NPL toward Operating Expense to Operating Income is 9.7%, Allowance for Impairment Losses toward Operating Expense to Operating Income is 1.8%, and Operating Expense to Operating Income towards ROA is 78.5%. On the other hand, the rest percentage is affected by other variables which are excluded from this study.

Path Analysis Test. T-test is used to test the hypotheses which partially elicit the effect of two independent variables (NPL and Allowance for Impairment Losses) on the dependent variable (Operating Expense to Operating Income).

Based on the table 3, it is found that the significant value of NPL is .004 with α .05 level of significance. It shows that the significance value of NPL is lower than α .05 meaning that NPL variable significantly affects Operating Expense to Operating Income variable. On the other hand, the significance value of Allowance for Impairment Losses is .238 with α .05 level

of significance. It shows that Allowance for Impairment Losses does not significantly affect Operating Expense to Operating Income variable.

Table 3 – Partial Test (T-Test) of NPL and Allowance for Impairment Losses on Operating Expense to Operating Income

Coefficients^a

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---------------------------------|-----------------------------|------------|---------------------------|--------|------|
| | B | Std. Error | Beta | | |
| (Constant) | 79.754 | 2.064 | | 38.650 | .000 |
| 1 NPL | 1.968 | .673 | .306 | 2.925 | .004 |
| Allowance for Impairment Losses | 1.250 | 1.051 | .125 | 1.190 | .238 |

Dependent: Operating Expense to Operating Income.

The Result of Regression Analysis:

Table 3: Indirect Coefficient

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---------------------------------------|-----------------------------|------------|---------------------------|---------|------|
| | B | Std. Error | Beta | | |
| (Constant) | 10.601 | .526 | | 20.159 | .000 |
| 1 NPL | .011 | .041 | .014 | .268 | .789 |
| Allowance for Impairment Losses | .140 | .061 | .116 | 2.279 | .025 |
| Operating Expense to Operating Income | -.109 | .006 | -.906 | -17.003 | .000 |

Dependent: ROA Variables.

Path coefficient model II is about the effect of NPL, Allowance for Impairment Losses, and Operating Expense to Operating Income variable on ROA. The significance value of the three variables are: X1 (NPL) is .789 showing that NPL through Operating Expense to Operating Income does not significantly affect ROA with beta .014, X2 (Allowance for Impairment Losses) has significance value .025 lower than significance value α .05 meaning that Allowance for Impairment Losses through Operating Expense to Operating Income affects ROA significantly with beta value .116, and significance value of Operating Expense to Operating Income is .000 showing that Operating Expense to Operating Income affects ROA significantly with beta value .906.

The Scale of Impact:

Table 4 – For NPL Variable

| | |
|----------------------------------------------------------------------------------------------------------------------------|-------|
| Direct Impact of NPL on ROA | 0,014 |
| Indirect Impact of NPL on ROA through Operating Expense to Operating Income as the intervening variable $.306 \times .906$ | 0,277 |
| Total Impact of NPL on ROA | 0,291 |

Table 5 – For Allowance for Impairment Losses Variable

| | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| Direct Impact of Allowance for Impairment Losses on ROA | 0,273 |
| Indirect Impact of Allowance for Impairment Losses on ROA through Operating Expense to Operating Income as the intervening variable $0,125 \times 0,906$ | 0,113 |
| Total Impact of Allowance for Impairment Losses on ROA | 0,229 |

The results show that the value of direct impact of NPL toward the profitability ROA which is only .014 is able to increase up to .277 if the indirect impact is reviewed through the efficiency of Operating Expense to Operating Income. The increase of the effect from the intervening variable causes the total impact of NPL on profitability ROA is .291. This result is different from the impact of Allowance for Impairment Losses on profitability ROA with

Operating Expense to Operating Income efficiency variable as the intervening variable. The value of direct impact of Allowance for Impairment Losses on profitability ROA is only .116 which, in fact, the impact decreases up to .113. This decrease from the intervening variable causes the total impact of Allowance for Impairment Losses on profitability ROA is .229.

The result of path analysis test shows that the profitability with credit risk represented by NPL variable as the defining factor should consider Operating Expense to Operating Income efficiency variable as the intervening variable. In this case, some studies treat Operating Expense to Operating Income efficiency variable as the independent variable, not as the intervening variable. If Operating Expense to Operating Income efficiency variable is as the independent variable, the role of credit risk to increase profitability ROA value is low. On the other hand, it will be different if Operating Expense to Operating Income efficiency variable is as the intervening variable, the role of credit risk in increasing profitability ROA will increase significantly. This result also shows that the increase of profitability ROA is not enough by only minimizing the credit risk by decreasing NPL. It should be followed by efficiency improvement. If inefficiency occurs, the increase of credit risk (NPL) will not contribute more to the profitability ROA. The banks involved in Commercial Bank Based on Business Activities 3 which become the samples of this study should consider the result of this study so that they will be able to decide good strategies in order to increase profitability ROA. Moreover, the result of the study shows that the increase of credit risk NPL can increase the profitability ROA if it is followed by the effort to be efficient. In this case, the role of efficiency Operating Expense to Operating Income in mediating the relationship between credit risk NPL and profitability ROA is very high. The evidence is that the scale of total credit risk impact is significant enough after gaining more indirect impact through Operating Expense to Operating Income efficiency.

However, it is different from Allowance for Impairment Losses variable which does not have significant impact through Operating Expense to Operating Income efficiency as the intervening variable. Allowance for Impairment Losses variable as the defining factor does not need to consider Operating Expense to Operating Income efficiency variable as the intervening variable because the result show that the increase of profitability ROA is enough by only minimizing the credit risk by lowering Allowance for Impairment Losses without the improvement on the efficiency of bank business activities. It occurs because the reserved fund to cover the losses has run for a year. The role of Operating Expense to Operating Income efficiency in mediating the relationship between credit risk Allowance for Impairment Losses and profitability ROA does not affect significantly. It is shown that the scale of the total credit risk impact which decreases is significant enough after gaining indirect impact through Operating Expense to Operating Income efficiency.

CONCLUSION AND SUGGESTIONS

Based on the regression analysis, some of the hypotheses are accepted and the others are rejected. In other words, there is significant impact and not significant impact. Therefore, it can be concluded that: (1) Non-Performing Loan (NPL) ratio has positive, significant effect on Operating Expense to Operating Income efficient ratio, (2) Allowance for Impairment Losses ratio has positive, not significant impact on Operating Expense to Operating Income efficiency ratio, (3) Non-Performing Loan (NPL) ratio has positive, not significant effect on profitability, (4) Allowance for Impairment Losses ratio has positive, significant impact on profitability, (5) Operating Expense To Operating Income efficiency ratio has negative, significant impact on profitability, (6) Non-Performing Loan (NPL) ratio affects negatively and significantly on profitability with Operating Expense To Operating Income efficiency as the intervening variable, (7) Allowance for Impairment Losses ratio affects negatively and does not affect significantly on profitability with Operating Expense To Operating Income efficiency as the intervening variable. Finally, regarding to the results of this study, future researchers should add other ratios which can be used to measure credit risk and profitability and should broaden the period of research period and provide more banks to be used as the research subject. Moreover, the management of bank should be more aware of lending by always

implementing prudential principles and deeper mitigation of credit risk. Bank should be able to do efficient business activities to mitigate the credit risk so that it can affect the ability of bank in gaining profit.

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THE EFFECT OF GOOD CORPORATE GOVERNANCE, CAPITAL ADEQUACY, LIQUIDITY AND NON-PERFORMING LOAN ON BANK PROFITABILITY IN INDONESIA

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ABSTRACT

This study aims to examine the effect of Good Corporate Governance, capital adequacy, liquidity, and non-performing loans to bank profitability in Indonesia in 2008-2016. The independent variables in this study are Good Corporate Governance assessed by its inverse value, capital adequacy represented by Capital Adequacy Ratio, liquidity represented by Loan to Deposit Ratio, and non-performing loans represented by Non-Performing Loan. Dependent variable in this research is profitability represented by Return on Asset and Return on Equity. This present study uses firm size control variables proxied by logarithm natural total asset (LnTA). The samples of this study are 10 banks with the largest total assets in Indonesia. The researcher uses data from bank annual report in 2008-2016 published on the website of each bank. This research is examined by using multiple linear regression analysis technique.

KEY WORDS

Bank, loan, profitability, assets, Indonesia.

Lehman Brothers is one of the strongest investment bank companies in Wall Street. The year of 2008 became the end of Lehman Brothers triumph. At that year, the consumption of the American people is very high compared to the income and they finance it in the form of debt or credit. Financial institutions went to bankruptcy because it cannot pay debts at the same time. At the same moment, Indonesia is also being disrupted by the Bank of Century bailout case. The case begins from the decrease of Bank of Century performance so that meetings are held to determine its status. The result of the meeting states that the Bank of Century is a failed bank, but there is a concern that it will have a systemic impact; therefore, in bank failure analysis, it is mentioned that the bank only needs additional capital of 632 billion rupiah.

Bank of Indonesia has attempted to improve the quality of conventional banks in Indonesia not only from the financial side but also from the non-financial side. *Good Corporate Governance* practices must be implemented in the banking industry since 2006. Based on Bank of Indonesia regulation No. 8/4/PBI/2006, Bank of Indonesia requires all banks in Indonesia to implement *Good Corporate Governance*. Based on the research conducted by Lukas (2015), Purwanto (2015), and Haider (2015), *Good Corporate Governance* affects profitability. Similarly, the research conducted by Lutfi et al (2014) states that the Board of commissioners and public transparency can increase profitability of bank operations. In this research, the effect of *Good Corporate Governance* on the profitability of conventional banks in Indonesia will be re-examined. In this study, *Good Corporate Governance* will be assessed based on composite value.

The implementation of *Good Corporate Governance* is done with the fulfillment of 11 assessment indicators. Assessment indicators ensure that the functioning of all policy holders is accountable. The bank's obligation to provide information transparently about the financial and non-financial conditions at the bank makes all management responsible for their respective duties. In addition, there is also the implementation of compliance functions that can maintain the suitability of implementation in banks with regulations set by Bank Indonesia. The main source of bank income is from interest income earned from credit customers. Loans are sourced from customers' deposits, including savings, deposits, and other time deposits. Since it has high role of customers for banks, then Bank of Indonesia

guarantees it with the assessment of *Good Corporate Governance* that will show the performance of bank management in regulating customer funds. Bank with composite value 1 is a bank that has implemented *Good Corporate Governance* very well. The implementation of *Good Corporate Governance* must be published so that customers know the performance of all banks, so that customers can choose which banks will be where they apply credit or to save the funds. The more customers have credit and save the funds in the bank, the more increasing the profitability of the bank.

In 2008, the banking industry is increasingly difficult to obtain third party funds, the banking industry reduces credit expansion due to tight liquidity, the weakening of rupiah exchange rate, the rising bank interest rates, the slackening of bond and stock market transactions, and the declining economic activity. The banking industry is also constrained by increasingly tight liquidity. The increasingly tight liquidity can threaten the Indonesian economy. The tight bank liquidity is viewed from the slow amount of deposits in the bank while the credit distribution is smoother. Based on the researches conducted by Rengasamy (2014) and Purwanto (2015), bank liquidity does not affect the profitability of banks. While the results of research done by Serani et al (2016) prove that liquidity has a negative effect on profitability. The inconsistency of the study results will be re-examined in this present study.

Banking financial performance can be measured by liquidity ratio, solvency, and profitability. Liquidity ratio is the ratio used to see the bank's ability to meet its short-term liabilities. Short-term liabilities meant is the funds of depositors who are at any time withdrawn. Besides, the banks must also have the ability to provide disbursement of credit funds that have been approved. According to Agnes (2001, 28) the bank is considered being liquid if: (a) the bank has cash assets of the needs that will be used to meet its liquidity; (b) the bank has cash assets through various forms of debt. At the bank's financial statements, total assets of high value means not only shows a strong financial position, but also shows that there are excess assets which are idle. If a large asset is offset by a high asset turnover, it can generate profits. Idle funds can be allocated for disbursements in the form of credit so that banks can benefit from interest income. In this study, total assets can be a control variable to test the effect of *Good Corporate Governance*, capital adequacy, liquidity, and non-performing loans.

One of the causes of Lehman Brother's bankruptcy is the high level of bad debts, so the company is not able to finance the company's operations. Based on the research conducted by Abiola (2015), bad credit occurs due to the shift in the cost of failure of loan payments so that it can reduce profitability. Bhattarai (2016) and Juliana Stanley (2017) prove that non-performing loans have a positive effect on profitability, but in the research conducted by Frederick (2015), it reveals that non-performing loan is not the variable affecting profitability. In this research, the effect of non-performing loans on bank profitability in Indonesia will be examined.

Related to the large amount of bad loans, banks are required to have sufficient capital to be able to defend itself when conditions are difficult. The higher the capital adequacy rate of the bank, the better the bank is in self-defense. The research conducted by Abiola (2014), Frederick (2015) and Isanzu (2017) prove that capital adequacy has a positive effect on bank profitability. The condition of the capital adequacy of conventional banks in Indonesia over the past five years has always been an increase. Banks with large capital ratios mean having a capital structure that is a quarrel. Banks have sufficient funds that can be used as anticipation to cover the non-performing loans. A large capital ratio can trigger a team spirit to provide large credits, from the disbursed loans that are expected to provide a large interest income as well. A large interest income can increase ROA and ROE ratios.

METHODS OF RESEARCH

Based on the time dimension of the research, this research includes pooling data, in which the data used is from 2008-2016. Source of data used in this research is secondary data source that is bank annual report published in 2008-2016. Besides, based on the research objectives, this research is included into deductive research. On the other hand,

based on the characteristics of the problem, this study is included into comparative causal research, in which the researcher looks for causal relationships of dependent variables and independent variables.

The populations in this study are all conventional commercial banks in Indonesia and the research sample is the top ten banks with the largest total assets that publish annual report on 2008-2016 on their respective websites. The following sample in this research:

Table 1 – List of Sample

| No. | Bank name | No. | Bank name |
|-----|------------|-----|--------------|
| 1 | BRI | 6. | Panin Bank |
| 2 | Mandiri | 7. | Permata Bank |
| 3 | BCA | 8 | Maybank |
| 4 | BNI | 9 | Danamon Bank |
| 5 | CIMB Niaga | 10 | OCBC NISP |

The data analysis technique used is multiple linear regression. Before doing residual regression, the data must be free from undesirable things, so it needs to do normality test, multicollinearity test, autocorrelation test, and heteroscedasticity test. In this study, the effect of GCG variables, capital adequacy, liquidity and nonperforming loans to profitability (ROA and ROE) both partially and simultaneously will also be tested. The regression model used is:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \varepsilon_1$$

Where:

α : constants

X_1 : *Good Corporate Governance*

X_2 : Capital Adequacy

X_3 : Liquidity

X_4 : Nonperforming loans

X_5 : Ln Total Assets

$\beta_1, \beta_2 \dots \beta_6$: Regression coefficients

ε_1 : Error

The GCG used is the composite value submitted by each bank on the bank's annual report. High composite values indicate that banks disobey and adhere to 11 GCG guidelines, whereas GCGs should be able to improve profitability. The better the GCG implementation, the higher the profitability. However, high composite values indicate high GCG implementation. To simplify the process of data processing, the inverse value of GCG is done. The formula for inverse GCG is:

$$\begin{aligned} GCG1 &= 6 - GCG (1) \\ GCG1 &= \text{inverse GCG value} \\ 6 &= \text{Constant} \\ GCG &= \text{Bank GCG Value} \end{aligned}$$

Capital adequacy used in this research is *Capital Adequacy Ratio*. The data used is the CAR ratio contained in the annual report of the bank year of 2008-2016. Liquidity used in this research is *Loan to Deposit Ratio*. The data used is the LDR ratio contained in the bank yearly report of 2008-2016. The bad credit used in this study is the ratio of *Non-Performing Loans*. The data used is the ratio of NPL found in the annual report of the bank year of 2008-2016.

RESULTS AND DISCUSSION

The classical assumption test shall be performed to ensure that the residual data used is data that is feasible and has been freed from the things that are not desirable. In this research, normality, multicollinearity test, autocorrelation test and heteroscedasticity test will be examined. Normality test is performed by using *Kolmogorov smirnov test* with significance of 5%. The results of the ROA normality test show 0,996, the significance is greater than

0,05. It means that the residual ROA data is normally distributed. Normality test result for the dependent variable ROE is 0,723, the significance is greater than 0,05. It means that residual ROE data is normally distributed.

Table 2 – Normality test result – ROA

One-Sample Kolmogorov-Smirnov Test

| n/n | | Unstandardized Residual |
|-----------------------------------|----------------|-------------------------|
| N. X | | 90 |
| Normal Parameters ^{a, b} | Mean | ,0000000 |
| | Std. Deviation | ,74827451 |
| Most Extreme Differences | Absolute | ,043 |
| | Positive | ,037 |
| | Negative | -,043 |
| Kolmogorov-Smirnov Z | | ,410 |
| Asymp. Sig. (2-tailed) | | ,996 |

a. Test distribution is Normal.

b. Calculated from data.

Table 3 – Result of normality-ROE test

One-Sample Kolmogorov-Smirnov Test

| n/n | | Unstandardized Residual |
|-----------------------------------|----------------|-------------------------|
| N. X | | 90 |
| Normal Parameters ^{a, b} | Mean | ,0000000 |
| | Std. Deviation | ,74827451 |
| Most Extreme Differences | Absolute | ,043 |
| | Positive | ,037 |
| | Negative | -,043 |
| Kolmogorov-Smirnov Z | | ,410 |
| Asymp. Sig. (2-tailed) | | ,996 |

a. Test distribution is Normal.

b. Calculated from data.

The multicollinearity test is performed by regression of the model and by looking at the VIF and tolerance values. The multicollinearity test results show that the VIF value is less than 10 and tolerance is more than 0,1. The result of multicollinearity test on ROE variable with VIF value for all independent variable is less than 10 and tolerance value of all variables is more than 0.1. It means that, based on multicollinearity test, there is no correlation among independent variables.

Table 4 – Multicollinearity Test Result on ROA Variable

Coefficients^a

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Collinearity Statistics | | |
|------------|-----------------------------|------------|---------------------------|--------|-------|-------------------------|------|-------|
| | B | Std. Error | Beta | | | Tolerance | VIF | |
| (Constant) | -10,990 | 2,453 | | -4,480 | ,000 | | | |
| 1 | gcg1 | ,622 | ,237 | ,212 | 2,619 | ,010 | ,818 | 1,222 |
| | car1 | ,046 | ,032 | ,109 | 1,440 | ,154 | ,936 | 1,069 |
| | ldr1 | -,008 | ,009 | -,085 | -,934 | ,353 | ,648 | 1,544 |
| | npl1 | -,051 | ,086 | -,045 | -,593 | ,554 | ,921 | 1,053 |
| | LnTA | 2,000 | ,264 | ,637 | 7,577 | ,000 | ,757 | 1,321 |

a. Dependent Variable: roa1

The table above reveals that the multicollinearity test results on the dependent variable of ROE with the VIF value for all independent variables is less than 10 and the tolerance value of all variables is more than 0,1. It means that, based on multicollinearity test, there is no correlation among independent variables.

Table 5 – Multicollinearity Test Result on ROE Variable

Coefficients^a

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Collinearity Statistics | |
|------------|-----------------------------|------------|---------------------------|--------|--------|-------------------------|------|
| | B | Std. Error | Beta | | | Tolerance | VIF |
| (Constant) | -66,980 | 19,473 | | -3,440 | ,001 | | |
| 1 | gcg1 | 5,090 | 1,885 | ,207 | 2,700 | ,008 | ,818 |
| | car1 | -,503 | ,252 | -,143 | -1,997 | ,049 | ,936 |
| | ldr1 | -,140 | ,069 | -,176 | -2,039 | ,045 | ,648 |
| | npl1 | ,228 | ,682 | ,024 | ,334 | ,739 | ,921 |
| | LnTA | 15,328 | 2,095 | ,584 | 7,316 | ,000 | ,757 |

a. Dependent Variable: roe1

The next classical assumption test done is autocorrelation test. The purpose of the autocorrelation test is to ensure that there is no correlation between the period t and the previous period (t-1). The occurrence of autocorrelation can be done by doing *Runs Test*. The absence of correlation between periods t and t-1 can be seen from significance values above 0,05. The regression model in this study reveals that the autocorrelation test for the dependent variable of ROA is significant at 0,710. The result that the autocorrelation test for the dependent variable ROE shows significant at 0,710. It means that there is no correlation between the period t and the previous period (t-1).

Table 6 – Autocorrelation Test on ROA Variable

Runs Test

| n/n | Unstandardized Residual |
|-------------------------|-------------------------|
| Test Value ^a | -,28565 |
| Cases <Test Value | 45 |
| Cases > = Test Value | 45 |
| Total Cases | 90 |
| Number of Runs | 22 |
| Z | -5,088 |
| Asymp. Sig. (2-tailed) | ,710 |

a. Median

Table 7 – Autocorrelation Test on ROE Variable

Runs Test

| n/n | Unstandardized Residual |
|-------------------------|-------------------------|
| Test Value ^a | -1,43717 |
| Cases <Test Value | 45 |
| Cases > = Test Value | 45 |
| Total Cases | 90 |
| Number of Runs | 24 |
| Z | -4,664 |
| Asymp. Sig. (2-tailed) | ,643 |

a. Median

The last classical assumption test is heteroscedasticity test. The purpose of the heteroscedasticity test is to ensure that the regression model does not contain residual variance inequality from one observation to another. The situation where the residual variance occurs is also called homoscedasticity. To obtain it, park test can be performed with significance of 0,05. The test results for the dependent variable of ROA shows that the significance of all independent variables is 0,05. It means that there is no heteroscedasticity in this model. The result of park test for ROA dependent variable reveals that the significance of all independent variables is above 0,05. It means that there is no heteroscedasticity in this model.

Table 8 – Heteroscedasticity Test Result on ROA Variable

Coefficients^a

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|------------|-----------------------------|------------|---------------------------|--------|------|
| | B | Std. Error | Beta | | |
| (Constant) | -2,556 | 1,719 | | -1,486 | ,145 |
| gcg1 | ,097 | ,163 | ,100 | ,597 | ,554 |
| car1 | -,009 | ,020 | -,065 | -,429 | ,670 |
| ldr1 | -,003 | ,007 | -,080 | -,478 | ,635 |
| npl1 | ,030 | ,060 | ,073 | ,496 | ,623 |
| LnTA | ,404 | ,163 | ,377 | 2,483 | ,017 |

a. Dependent Variable: LnU2iROA

Table 9 – Heteroscedasticity Test Result on ROE Variable

Coefficients^a

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|------------|-----------------------------|------------|---------------------------|--------|------|
| | B | Std. Error | Beta | | |
| (Constant) | 1,122 | 3,002 | | ,374 | ,710 |
| gcg1 | -,444 | ,300 | -,242 | -1,481 | ,146 |
| car1 | -,004 | ,040 | -,016 | -,105 | ,917 |
| ldr1 | -,005 | ,009 | -,100 | -,607 | ,547 |
| npl1 | ,143 | ,104 | ,201 | 1,368 | ,178 |
| LnTA | ,306 | ,302 | ,164 | 1,013 | ,317 |

a. Dependent Variable: LnU2iROE

All the classical assumption test proves that the data used is the data which is worth using. Furthermore, multiple regression test is done with significance level 0,05. The amount of GCG variable capability, Capital Adequacy (CAR), liquidity (LDR) and Nonperforming Loans (LDR) in explaining ROA variable is 55,1%. It means that 44,9% can be explained by variables other than GCG, capital adequacy, liquidity, and non-performing loans.

Table 10 – Model Summary of Multiple Linear Regression – ROA

Model Summary^b

| Model | R. | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|------|----------|-------------------|----------------------------|
| 1 | A.4. | ,551 | ,524 | ,7702227 |

a. Predictors: (Constant), LnTA, car1, npl1, gcg1, ldr1

b. Dependent Variable: roa1

Table 11 – Multiple Linear Regression Coefficient – ROA

Coefficients^a

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|------------|-----------------------------|------------|---------------------------|--------|------|
| | B | Std. Error | Beta | | |
| (Constant) | -10,990 | 2,453 | | -4,480 | ,000 |
| gcg1 | ,622 | ,237 | ,212 | 2,619 | ,010 |
| car1 | ,046 | ,032 | ,109 | 1,440 | ,154 |
| ldr1 | -,008 | ,009 | -,085 | -,934 | ,353 |
| npl1 | -,051 | ,086 | -,045 | -,593 | ,554 |
| LnTA | 2,000 | ,264 | ,637 | 7,577 | ,000 |

a. Dependent Variable: roa1

The table above is the result of multiple regression test which shows that GCG has positive significant effect on profitability (ROA). While the variables of adequacy and liquidity and nonperforming loans are not significant on profitability (ROA).

Table 12 – Model Summary of Multiple Linear Regression – ROE

Model Summary^b

| Model | R. | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|------|----------|-------------------|----------------------------|
| 1 | A.4. | ,595 | ,571 | 6,1137135 |

a. Predictors: (Constant), LnTA, car1, npl1, gcg1, ldr1

b. Dependent Variable: roe1

The table above reveals that the GCG variables of ability, Capital Adequacy (CAR), liquidity (LDR) and non-performing loans (LDR) in explaining ROE variable is 59,5%. It means that 40,5% can be explained by variables other than GCG, capital adequacy, liquidity, and non-performing loans.

Table 13 – Multiple Linear Regression Coefficient – ROA

Coefficients^a

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|------------|-----------------------------|------------|---------------------------|--------|------|
| | B | Std. Error | Beta | | |
| (Constant) | -66,980 | 19,473 | | -3,440 | ,001 |
| gcg1 | 5,090 | 1.885 | ,207 | 2,700 | ,008 |
| car1 | -,503 | ,252 | -,143 | -1,997 | ,049 |
| ldr1 | -,140 | ,069 | -,176 | -2,039 | ,045 |
| npl1 | ,228 | ,682 | ,024 | ,334 | ,739 |
| LnTA | 15,328 | 2.095 | ,584 | 7,316 | ,000 |

a. Dependent Variable: roe1

The result of multiple regression test shows that GCG has a significant positive effect on profitability (ROE), CAR, and LDR have significant negative effect on profitability (ROE). While, the variable of NOL is not significant to profitability (ROE). It means that GCG has a significant positive effect on profitability, capital adequacy, and liquidity significantly negatively affect profitability and nonperforming loan does not have significant effect on profitability (ROE).

In this study, the effect of GCG, capital adequacy, liquidity, and non-performing loan is tested significantly on profitability (ROA and ROE). The first step that must be done to perform the F test is to determine the test hypothesis. Ho testing mentions that there is no significant effect between GCG, CAR, LDR, NPL respectively on profitability (ROA). This test is significant at 5%. Based on Test F (simultaneous) on profitability (ROA), it reveals that F arithmetic amounted to 20,613. F table in this test is 2.479015. The value of F count is more than F table, so Ho is rejected. It means that there is a significant effect between GCG, capital adequacy, liquidity, and non-performing loan on profitability (ROA).

Table 14 – F Test Result (Simultaneous) – ROA

ANOVA^b

| Model | Sum of Squares | df | Mean Square | F. | Sig. |
|--------------|----------------|----|-------------|--------|------|
| 1 Regression | 61,143 | 5 | 12,229 | 20.613 | A.4. |
| Residual | 49.832 | 84 | ,593 | | |
| TOTAL | 110.975 | 89 | | | |

a. Predictors: (Constant), LnTA, car1, npl1, gcg1, ldr1

b. Dependent Variable: roa1

In the ROE variable, Test F (Simultaneous) is also performed. The first step that must be done to perform the F test is to determine the test hypothesis. Ho testing mentions that there is no significant effect between GCG, adequacy, and liquidity and non-performing loans on profitability (ROE). This test is significant at 5%. Based on Test F (simultaneous) on profitability (ROA), it shows that F count for 24,661. F table in this test is 2.479015. F value count is more than F table, so Ho is rejected. It means that there is a significant effect between GCG, adequacy, and liquidity and non-performing loans on profitability (ROE).

Table 15 – F (Simultaneous) Test Result – ROE

ANOVA^b

| | Model | Sum of Squares | df | Mean Square | F. | Sig. |
|---|------------|----------------|----|-------------|--------|------|
| 1 | Regression | 4608,871 | 5 | 921,774 | 24,661 | A.4. |
| | Residual | 3139,709 | 84 | 37.377 | | |
| | TOTAL | 7748,580 | 89 | | | |

a. Predictors: (Constant), LnTA, car1, npl1, gcg1, ldr1

b. Dependent Variable: roe1

After simultaneous testing, this study also tests the effect of each variable of GCG, adequacy, and liquidity and non-performing loans respectively on Profitability (ROA and ROE). The tests are done in two stages namely for right side and left side. The test on the right side aims to partially test the effect of variables that have a positive effect and the test on the left side aims to partially test the effect of variables that negatively affect. Right-side testing is done for GCG variables, capital adequacy, and liquidity. Left-side testing is performed for the non-performing loan variable.

The first test is a right-left test. Ho in this test is GCG, capital adequacy, and liquidity partially have a non-significant positive effect on profitability (ROA). The significance of this test is 5% and t table in this study is 1.988268. The result of t test (partial) can be seen that t count of GCG is bigger than t table, and t count of other variable is less than t table. It means that partial GCG variables have a non-significant positive effect on profitability (ROA). The test results also prove that the capital adequacy and liquidity have a significant positive effect on profitability (ROA).

In the left-side test, Ho testing is a partially non-performing loans having a non-significant negative effect on profitability (ROE). The significance of this test is 5% and t table in this study is 1.988268. The result of t test (partial) can be seen that t count of NPL which is less than t table. It means that the liquidity variable partially has a significant negative effect on profitability (ROA).

Table 16 – T-ROA Test Result

Coefficients^a

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|------------|-----------------------------|------------|---------------------------|--------|------|
| | B | Std. Error | Beta | | |
| (Constant) | -10,990 | 2,453 | | -4,480 | ,000 |
| gcg1 | ,622 | ,237 | ,212 | 2,619 | ,010 |
| car1 | ,046 | ,032 | ,109 | 1,440 | ,154 |
| ldr1 | -,008 | ,009 | -,085 | -,934 | ,353 |
| npl1 | -,051 | ,086 | -,045 | -,593 | ,554 |
| LnTA | 2,000 | ,264 | ,637 | 7,577 | ,000 |

a. Dependent Variable: roa1

Table 17 – Result of t Test – ROE

Coefficients^a

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|------------|-----------------------------|------------|---------------------------|--------|------|
| | B | Std. Error | Beta | | |
| (Constant) | -66,980 | 19,473 | | -3,440 | ,001 |
| gcg1 | 5,090 | 1.885 | ,207 | 2,700 | ,008 |
| car1 | -,503 | ,252 | -,143 | -1,997 | ,049 |
| ldr1 | -,140 | ,069 | -,176 | -2,039 | ,045 |
| npl1 | ,228 | ,682 | ,024 | ,334 | ,739 |
| LnTA | 15,328 | 2.095 | ,584 | 7,316 | ,000 |

a. Dependent Variable: roe1

The next test is the t test for the profitability variable (ROE). Ho in this test are GCG, capital adequacy, and liquidity partially have a non-significant positive effect on profitability

(ROE). The significance of this test is 5% and t table in this study is 1.988268. The result of t test (partial) shows t count of GCG is bigger than t table, and t count of other variable is less than t table. It means that partial GCG variables have a non-significant positive effect on profitability (ROA). The test results also show that the capital adequacy and liquidity have a significant positive effect on profitability (ROA).

In the left-side test, Ho testing is a partially non-performing loans having a non-significant negative effect on profitability (ROE). The significance of this test is 5% and t table in this study is 1.988268. Based on the table of t test results (partial), it can be seen that t count of NPL is less than t table. It means that the partial liquidity variable has a significant negative effect on profitability (ROE).

CONCLUSION

Based on the results of the research, it can be concluded that GCG, capital adequacy, and liquidity have an effect on profitability. Non-performing loan variable does not have any effect on profitability. In the upcoming research, other independent variables can be added that can affect the performance of banks in Indonesia.

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THE CORRELATION OF CORPORATE CULTURE, INTERPERSONAL RELATION AND PERFORMANCE APPRAISAL SYSTEM TO OBJECTIVITY OF PERFORMANCE APPRAISAL IN COMPANY

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ABSTRACT

The purposes of this study are: describing and analyzing the correlation of organizational culture, interpersonal relations, performance appraisal system to the objectivity of performance appraisal; arranging organization culture role model, interpersonal relation, the performance appraisal system towards improving the objectivity of performance appraisal. This study uses three questionnaires to find out information from the respondents, and based on multiple regression calculations with SPSS Windows Software. The results showed that organizational culture, interpersonal relationship and performance appraisal system significantly influence objectivity performance assessment in the company.

KEY WORDS

Organization culture, interpersonal relation, performance appraisal system, performance appraisal objectivity.

The success of an organization is determined by the leadership developed in that organization and the competence has given by its members/organization culture to achieve that goal. In line with the importance of human resources within the organization, human resource is the most important element determines the success or failure of an organization to conduct various activities and in the context of achieving the goals and objectives of the unit/organizations. Currently, many organizations need to change the culture of the agency to ensure its survival or to gain more competitive benefits. This is often driven by the fact that existing cultures are sometimes no longer able to improve the situation in the future as the organization needs it. The strengths of the organization's external environment can be as a signal the need for cultural change, for example, with increases of sharp competition in an agency's environment, then demanding a change of organizational culture to be able to respond faster what the society wants. The power of cultural change is not only coming from the external's environment but also can come from the inside of the environment / internal. For instance, if the head office implements the new approaches to the organizational management to create a good performance (Verbeeten, 2008).

In practice, the organizational culture refers to the values and beliefs associated with the operational systems undertaken by an organization. Organizational culture is important to provide consistency and flexibility in order to be responsive to customer demand, and to achieve a sustainable competitive advantage, learning culture is found to be a very important organizational capability (Ahmad, 2012).

Company X is a State Owned Enterprise engaged in the business of seaport services. A brief history of Company X at the beginning of its establishment is a State Company, whose establishment set under the Government Regulation no. 19 the year 1960. In the period of 1969 until 1983 form State Company has been changed to the name of Port Agency of Enterprises based on Government Regulation No. 1 the year 1969. Further, in the period of 1983 until 1992 changed to Public Company in Port based on The Government Regulation No. 16 the year 1983 and The Government Regulation No. 6 the year 1985. Therefore, since 1992 along with the rapid development of business, the status of Perum changes to the Persero/State Owned Company.

Company X has a headquarter that located in Surabaya, which manages for 40 ports that are grouped into 19 branches and 21 sub-branches spread across 7 Provinces, that is at

East Java, Central Java, South Kalimantan, Central Kalimantan, Bali, West Nusa Tenggara and East Nusa Tenggara. The Act number 17 the year 2008 concerning shipping, has changed the policy of business in the seaport sector that regulates the separation of regulatory functions mandated to the Port Authority as a representative of the government and for the port operators itself mandated to Port Business Entity. According to the new regulation, either local government and private entity have the same right to become a Port Business Entity or terminal operator, they are able to build a port and operate the port business with the condition they have a license as a Port Business Entity and also owned the port facilities required especially berth facility (terminal).

With regard to the new regulation, the port business competition will be more stringent. Company X will have new competitors' presence that can be a threat or the challenges. This is forced Company X to always improving their quality of services and have the same working standards, including in all the branches of Company X. Therefore, in order to prepare the organization in the competing era which goes more and more tightening, Company X is required to improve their performance to win the competition. One of the supporting factors is Human Resources (HR) which is a factor that determined the success of the company. Appropriate and competitive of the Human Resource Management and Performance is an intellectual property (Intellectual Asset) owned by the company that will be able to bring the company to successfully achieve their vision and mission.

To enable assessing the performance of existing human resources, Company X has an HR performance assessment system named SMKI (Individual Performance Management System). The SMKI is a system built to manage the individual employee performance that includes the activities of planning, monitoring, appraisal and rewards activities of the employee performance achievements. The SMKI is made and implementing has a purpose to assist the leader/organization cultures enable to manage their staff performance, therefore the leader able to increase the opportunity to achieve the goals of organization cultures individuals, work units and companies. The purpose of the creation of the SMKI is to improve a performance's organization through the correlation organization culture of the target work unit into an individual performance goal. Therefore, implementing the SMKI has the goal to monitor all the individual performance and the result of a performance appraisal can as a reference in promoting employees. In addition, that is, as one of the considerations of employee's promotion and a reference in the award of year-end organization cultures.

The SMKI shows bend from the expectation during its implementation. The implementation of the SMKI has not been working objectively. This is known from the interview with one of the Managers in the branch office. When the Manager was asked to recommend the staff to be promoted, they did not use the SMKI as a basis for promotion because the Manager did not feel the SMKI as a valid reference information for promotion. The Manager was argued that the SMKI is not filled based on actual conditions, but because of the sense of discomfort. This sense of discomfort is due to the results of the SMKI as one of the bases for the calculation of year-end bonus and the leader will feel sorry if there are any staff who do not receive as much as what other colleagues in a unit get. In addition, the SMKI is not based on the job description of each staff, therefore the results of the SMKI assessment cannot show the result of the performance due to it is not based on employee job description, but only based on the organization cultures' estimation.

The result of the interview with The Human Resources division at Company X reveals that the current use of the SMKI is different from the original goals. Based on the interview revealed that there are certain of the work unit has requested the HR department to fill in the SMKI of their unit with the argument that SMKI is an HR's responsibility. In another case found there are any superiors who asked their staff to fill in his SMKI form, then it sent back to sign by the leader for the purpose to make it like assessed made by the leader.

The career competition in Company X is very open, therefore it allows younger employees to be ahead of senior employees in terms of career. This open competition condition allows friction between employees. However, the Indonesian culture is often someone to feel bad then eventually make the competition like does not exist. Even though, a competition sometimes creates an interpersonal conflict that occurs between employees.

The Implementation of SMKI is not like what initially expected by Company X. This condition raises the two assumptions that whether the corporate culture gives a person influence in performing a performance evaluation and whether interpersonal conflict makes someone afraid to perform performance appraisal.

The purposes of this study are 1. To describe and analyze the correlation of organizational culture, interpersonal relationships, performance appraisal system with the objectivity of performance appraisal. 2. To establish the role model of organizational culture, interpersonal relationships, performance appraisal systems towards improving the objectivity of performance appraisal.

LITERATURE REVIEW

The theory that supports performance is the goal setting theory, where Sekaran (1992) explains about one type of organizational development intervention is setting. The implementation process of this setting is an approach to understanding management based on goals or outcomes that help to provide an understanding of management or management aspects, outcomes, and objectives.

The purpose of a performance appraisal is to provide personal and periodic employee feedback, control employee work behavior, establish or compensate, predict career advancement within the company, measure employee and company training needs, counsel, set and measure objectives, facilitate policy setting within reduction of employees (Obong, 2009).

The use of objectivity performance appraisal, among others, is to make better decisions, higher employee satisfaction and motivation, a stronger commitment to the company, so that the company can be more effective. Employees will receive an assessment if they are allowed to participate, discuss plans and objectives, and are assessed on the basis of factors relevant to their work. Effective assessment has five criteria: validity that can be seen from assessment factors, reliability or consistency of judgment, discriminatory or distinguishes the results of judgment, free of bias, and relevant or appropriate to the situation and performance conditions (Ochoti, 2012).

The corporate culture in this study uses measurements based on the characteristics of organizational culture (O'Reilly, Chatman, and Caldwell, 1991). The observable organizational culture is behavioral patterns that are manifestations or expressions of basic assumptions and values. O'Reilly, Chatman, and Caldwell (1991, in Munandar, 2001) suggested the following organizational cultural traits:

1. Innovation and risk taking

Seeking new opportunities, taking risks, experimenting, and not being hampered by formal policies and practices.

2. Stability and security

Appreciate the foreseeable things, security, and use of rules that exert behavior.

3. Appreciation to people

Showing tolerance, fairness, and respect for others.

4. Orientation of results

Having high attention and expectation of results, achievements, and actions.

5. Team orientation and collaboration

Work together in a coordinated and collaborative way.

6. Aggressiveness and competition

Take decisive actions in markets in the face of competitors.

Cross-cultural research on society conducted by Smith and Bond, (1995) proves that the cultural background also affects one's interpersonal relationships. Through this research, it is known that people with eastern culture are more cooperative, willing to help foreigners in their environment. More open and more empathetic, so that interpersonal relationship built can be done well and satisfactorily. While western societies that tend to be more closed will be more difficult in establishing good interpersonal relationships.

METHODS OF RESEARCH

The type of research used is explanatory research, this research emphasizes on the relationship between research variables by testing the description hypothesis contains description but the focus lies in the relationship between variables (Singarimbun, 1989).

The population in this study is all human resources working in Company X a number of 1879 employees. Sampling technique in this research use purposive sampling with criteria:

1. Employee with minimum working experience of 10 Years
2. Employees who have the authority to assess

Pursuant to purposive sampling obtained sample of 132 respondents.

Primary data required in this study are data related to organizational culture, interpersonal relationships, performance appraisal systems and performance appraisal objectivity.

The secondary data used in this study is data on literature and information that support such data employee Company X.

This study uses three questionnaires to find out information from respondents. The three questionnaires are the corporate culture questionnaire, the objectivity assessment questionnaire of the SMK instrument, and the interpersonal relationship questionnaire.

Each questionnaire has a favorable and unfavorable item. Item Favorable is the item that supports the measured variable and the unfavorable item is an item that does not support the measured variable. Each answer has four alternative answers SS (Strongly Agree), S (Agree), (TS) Disagree, STS (Strongly Disagree) Assessment for each item ranges from 1-4, for favorites responses SS gets value 4, S obtains value 3, TS gets 2, STS gets 1. Conversely, for unfavorable item STS answers get value 4 and subsequently in sequence. If the subject gives a sign to the STS column then it can be interpreted that the subject strongly disagrees with the statement relating to aspects of the questionnaire, but vice versa if the subject ticks on the SS column then it can be interpreted the subject agrees with the statement relating to the questionnaire aspect.

In this study there are four variables, namely organizational culture, interpersonal relationships, performance appraisal system and objectivity of performance appraisal defined as follows:

a. Interpersonal relationships are interactions between a person with others in work situations and in the organization as a motivation to work together productively to achieve economic, psychological and social satisfaction.

b. Organizational culture is the basic assumptions and beliefs that exist among members of the organization. Based on the explanation of the experts can be taken the conclusion of corporate culture is the values developed and believed by all members of the company.

c. The performance appraisal system, which results from the performance appraisal that has expected/expected value, has an effective valuation instrument and an effective appraisal valence.

d. The objectivity of performance appraisal is a more detailed assessment of work to make it easier for those authorized to assess in providing objective judgments and recommendations.

Validity test in this research using KMO (Gujarati, 1999).

Reliability testing of all items/questions used in this study will use the formula Cronbach alpha (coefficient alpha Cronbach), which in general is considered reliable if the value of alpha Cronbach > 0.6 (Gujarati, 1999).

In this study statistical calculation using Moderating Regression Analysis Model (MRA) with the following equation:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$$

Where: β_0 = Intercept; $\beta_1, \beta_2, \beta_3$ = The coefficient of independent variable parameters; e = error sampling; X_3 = Performance appraisal system; Y = Objectivity of performance appraisal; X_1 = Organizational culture; X_2 = Interpersonal relationship.

On the basis of the following stages:

1. Normality Test

Normality test in this study also seen from ratio Kolmogorov Smirnov (KS), if KS ratio above 0.05 then data is normally distributed (Gujarati, 1999).

2. Heteroscedasticity Test

This study also conducted a gleyser test, significance value > 0.05 then no Heteroscedasticity or in other words there is no influence of independent variables on alpha Cronbach (Gujarati, 1999).

3. Multicollinearity test

The multicollinearity test can be performed by way of regressing the analysis model and performing the correlation test between the independent variables using VIF. The VIF limit is 10 if the VIF value is greater than 10 then there is multicollinearity (Gujarati, 1999).

4. Autocorrelation Test

This test uses Durbin Watson's Test to see whether there is an autocorrelation (Gujarati, 1999).

5. Statistical Test t

The t-test is a test of hypothesis used to answer the problem in this research partially (individually).

If the level of significance is greater than 0.05 or 5% then the hypothesis proposed is rejected or said to be insignificant, meaning partially independent variable (X) has no significant effect on the dependent variable (Y) = hypothesis rejected.

The hypothesis is formulated as follows: $H_1: b_i \neq 0$

This means that there is a significant influence of the independent variable X_i against the dependent variable (Y).

The t-count value can be found by the formula: (Gujarati, 1999): If $t\text{-count} > t\text{-table} (\alpha, n-k-1)$, then H_0 is rejected; and If $t\text{-count} < t\text{-table} (\alpha, n-k-1)$, then H_0 is accepted.

6. Statistical Test F

The statistical test F basically indicates whether all independent or independent variables included in the model have a mutual influence on the dependent/bound variable. If the significance level is less than 0.05 or 5%, it means together all the independent variables (X) have a significant effect on the dependent variable (Y). And if the level of significance is greater than 0.05 or 5%, it means together all the independent variables (X) has no significant effect on the dependent variable (Y).

Hypothesis 0 H_0 to be tested is whether all parameters in the model are equal to zero, or: $H_0: b_1 = b_2 = \dots = b_k = 0$

That is, whether all independent variables are not a significant explanation of the dependent variable. The alternative hypothesis (H_A) is not all parameters simultaneously equal to zero, or: $H_A: b_1 \neq b_2 \neq \dots \neq b_k \neq 0$

That is, all independent variables are simultaneously a significant explanation of the dependent variable.

7. Coefficient of Determination (R^2)

The coefficient of Determination (R^2) essentially measures how far the model's ability to explain the variation of the dependent variable. The coefficient of determination is between zero and one. The small value of R^2 means the ability of the independent variables to explain the variation of the dependent variable is very limited. A value close to one means the independent variables provide almost all the information needed to predict the variation of the dependent variable (Gujarati, 1995).

RESULTS AND DISCUSSION

In this research, respondents used as samples are human resources of Company X. The method of data collection used is a questionnaire to obtain employee perceptions data

on organizational culture and interpersonal relations, while the performance appraisal system was obtained by using SMKI data on the objectivity of performance appraisal. Total of 132 employees of Company X was given the questionnaires.

Organization Culture Variable:

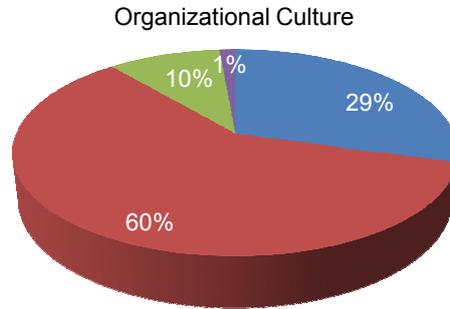


Figure 1 – Answer Results Distribution of Organizational Variables Respondents
(Source: Processed primer data, 2017)

Distribution of respondents' answer result for organization culture variable shows that the 'strongly agree' answers (score 4) are 29%, the 'agree' answers (score 3) are 60%, the 'disagree' answers (score 2) are 10%, and the 'strongly disagree' answers (score 1) are 1%.

Interpersonal Relation Variable:

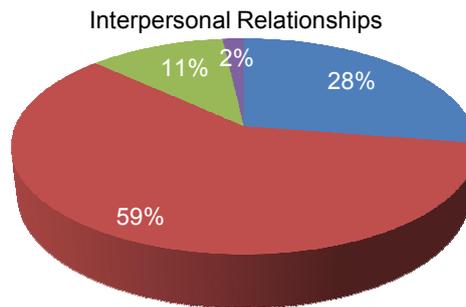


Figure 2 – Answer Results Distribution of Interpersonal Relation Variables Respondents
(Source: Processed primary data, 2017)

Distribution of respondents' answer result for interpersonal relations variables shows that the 'strongly agree' answers (score 4) are 28%, the 'agree' answers (score 3) are 59%, the 'disagree' answers (score 2) are 11%, and the 'strongly disagree' answers (score 1) are 2%.

Objectivity of Performance Appraisal Variables:

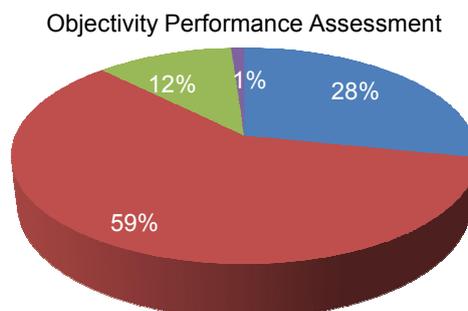


Figure 3 – Answer Results Distribution of Objectivity of Performance Appraisal Variables Respondents
(Source: Processed primary data, 2017)

Distribution of respondents' answer result for objectivity of performance appraisal variables shows that the 'strongly agree' answers (score 4) are 28%, the 'agree' answers (score 3) are 59%, the 'disagree' answers (score 2) are 12%, and the 'strongly disagree' answers (score 1) are 1%.

Data Analysis:

Validity Test. Validity test that used in this research, which determines the item whether is valid or not, is by looking at the direction of its correlation and the ratio of the r value to the r table. In r table of 5% error, level r table is 0.171 (df = 132-2 = 130, according to r table data presented in attachment). Since all items have a positive correlation and the r value is bigger than the r table (0.171), it can be stated that all items in this research variable are declared valid.

Reliability Test:

Table 1 – Instrument Reliability Test Results

| Variabel | Reliability Coefficient | Status |
|------------------------------------|-------------------------|----------|
| Organizational culture | 0.935 | Reliabel |
| Interpersonal Relationships | 0.847 | Reliabel |
| Objectivity Performance Assessment | 0.857 | Reliabel |

Source: Processed primary data, 2017

The table above shows that coefficient resulted from reliability test in organization culture variable is 0.935, the interpersonal relation is 0.847, and performance appraisal objectivity is 0.857. Thus, the reliability test results produce alpha Cronbach value > 0.6, it means that the test is reliable. Therefore, the three measurement instruments of the variables studied can be stated as reliable so it can be used as data for further analysis.

Classical Assumption Test:

1. **Normality Test.** The data of normality test was generated using Kolmogorov Smirnov test, with the following results:

Table 3 – The Result of Normality Test

One-Sample Kolmogorov-Smirnov Test

| n/n | | Organization Culture | Interpersonal Relationships | Performance Assessment System | Performance Evaluation Objectivity |
|----------------------------------|----------------|----------------------|-----------------------------|-------------------------------|------------------------------------|
| N | | 132 | 132 | 132 | 132 |
| Normal Parameters ^{a,b} | Mean | 158.46 | 50.03 | 85.0946 | 37.77 |
| | Std. Deviation | 15.033 | 5.589 | 6.66620 | 4.727 |
| Most Extreme Differences | Absolute | .067 | .108 | .117 | .091 |
| | Positive | .067 | .108 | .102 | .057 |
| | Negative | -.067 | -.063 | -.117 | -.091 |
| Kolmogorov-Smirnov Z | | .774 | 1.243 | 1.348 | 1.044 |
| Asymp. Sig. (2-tailed) | | .587 | .091 | .053 | .226 |

a. Test distribution is Normal.

b. Calculated from data.

Source: Processed primary data, 2017.

2. **Heteroscedasticity Test.** The heteroscedasticity test was performed by looking at the presence of a particular pattern on the scatter plot chart between SRESID and ZPRED where the Y axis is Y that has been predicted and the X axis is the residual with results presented in Figure 4.

The graphs on the test results show that the residuals do not form a clear pattern, and the spots are spread above and below the zeros on the Y axis. Thus, the residual value of the model is not influenced by the dependent or independent variable so that there is no heteroscedasticity problem in the model proposed.

3. **Multicollinearity Test.** The table 4 shows that all variables used as predictors of the regression model show a tolerance value of <0, 10, where everything is below 10 and the

Variance Inflation Factor (VIF) value of all variables is above 0.10. It means that the free variable used in the study does not indicate the existence of a multicollinearity phenomenon which means that all variables can be used as independent variables.

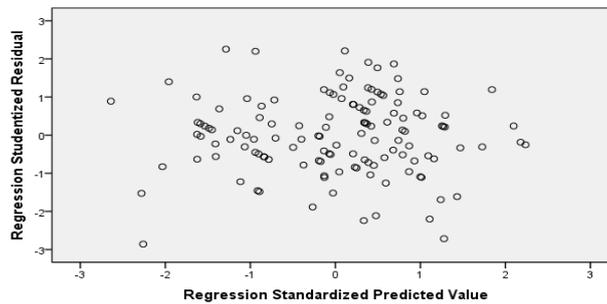


Figure 4 – The Result of Heteroscedasticity Test (Source: Processed primary data, 2017)

Table 4 – The Result of Multicollinearity Test

| Coefficients ^a | | Collinearity Statistics | |
|-------------------------------|--|-------------------------|-------|
| | | Tolerance | VIF |
| Model | | | |
| Organizational culture | | 0.493 | 2.030 |
| 1 Interpersonal Relationships | | 0.489 | 2.047 |
| Performance Appraisal System | | 0.954 | 1.048 |

a. Dependent Variable: Objectivity Performance Assessment

Source: Processed primary data, 2017.

4. Autocorrelation Test. Autocorrelation test in this study was conducted by looking at Durbin Watson correlation coefficient to determine whether there is autocorrelation can be done by using Durbin-Watson (DW test) statistic with the following results:

Table 5 – The Result of Autocorrelation Test

| Model Summary ^b | | | | | |
|----------------------------|-------------------|----------|-------------------|----------------------------|---------------|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
| 1 | .757 ^a | .573 | .563 | 3.124 | 1.344 |

a. Predictors: (Constant), Performance Appraisal System, Organizational Culture, Interpersonal Relations

b. Dependent Variable: Objectivity Performance Assessment

Source: Processed primary data, 2017.

Based on the table above, it can be seen that Durbin Watson value is 1.334. Then, this value was compared with table significance value of 0.05 with the number of sample $N = 132$ and number of variable 4 ($K = 4$), and the obtained value of Durbin Watson table are $dL = 1.621$ and $dU = 1.762$. Durbin Watson value ($4-dW$) $4-1.344 = 2.656$ is greater than the upper limit (dU) of 1.344 so it can be concluded that there is no autocorrelation.

Table 6 – Regression of the Influence of Organizational Culture, Interpersonal Relations, and Performance Appraisal System towards the Objectivity of Performance Appraisal

| Coefficients ^a | | | | | |
|------------------------------|-----------------------------|------------|---------------------------|--------|------|
| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| | B | Std. Error | Beta | | |
| (Constant) | -15.792 | 4.172 | | -3.785 | .000 |
| 1 Organizational culture | .123 | .026 | .393 | 4.774 | .000 |
| Interpersonal Relationships | .149 | .070 | .176 | 2.129 | .035 |
| Performance Appraisal System | .312 | .042 | .440 | 7.444 | .000 |

a. Dependent Variable: Objectivity Performance Assessment

Source: Processed primary data, 2017.

The regression equation that can be formed from the table a corporate culture is as follows:

$$Y = -.15.792 + 0.123.X1 + 0.149.X2 + 0.312.X3$$

The explanations of interpretation of formed regression equation are as follows:

– Constant obtained is -15.792. It means that by using a regression equation if the objectivity of performance appraisal is not influenced by organizational culture, interpersonal relation, and performance appraisal system, then the objectivity of performance appraisal will be equal to -15.792.

– The regression coefficient of organizational culture variable is 0.123. It means that any improvement of organizational culture will improve the objectivity of performance appraisal by 0.123.

– Regression coefficient of interpersonal relation variable is 0.149. It means that any improvement of interpersonal relations will improve the objectivity of performance appraisal by 0.149.

– The regression coefficient of performance appraisal system variables is 0.312. It means that any performance appraisal conducted will improve the objectivity of performance appraisal by 0.312.

Statistic Test with T-Test

T-test conducted in this study aims to test the significance influence of an independent variable individually to the variation of the dependent variables, and also to test the separate study hypothesis. If the calculated t is >t-table and significance level is <(0.05), then the independent variable individually affects the dependent variable with the result of the analysis as follows:

Table 7 – The Result of T-test

Coefficients^a

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|------------------------------|-----------------------------|------------|---------------------------|--------|------|
| | B | Std. Error | Beta | | |
| (Constant) | -15.792 | 4.172 | | -3.785 | .000 |
| 1 Organizational culture | .123 | .026 | .393 | 4.774 | .000 |
| Interpersonal Relationships | .149 | .070 | .176 | 2.129 | .035 |
| Performance Appraisal System | .312 | .042 | .440 | 7.444 | .000 |

a. Dependent Variable: Objectivity Performance Assessment

Source: Processed primary data, 2017.

DISCUSSION OF RESULTS

The Effect of Organizational Culture towards Objectivity of Performance appraisal in PT. Company X. The result of hypothesis testing with T-test shows that the value of T-count is 4.774 and T-table is 1.656, with sig value equal to 0.000. Since T-count (4,774) > T-table (1.656), then Ho is rejected and Ha is accepted. Thus, it can be stated that the hypothesis based on T-test for organizational culture variables significantly influence the objectivity of performance appraisal in Company X.

The results show that organizational culture affects the objectivity of performance appraisal in Company X. The results of this study are also in accordance with Robbins's statement which stated that organizational culture is a shared perception shared by members of the organization so that it becomes a culture that will lead the organization towards a better development. Accordingly, Yilmaz and Ergun also stated that organizational culture is the basic assumption and belief that exists between members of the organization. The results of this study are also in line with the results of the data frequency distribution questionnaire for organizational culture variables in which the highest response (60%) supports the proposed statement related to these variables.

The Influence Interpersonal Relation towards Objectivity Performance Appraisal in Company X. The hypothesis testing with T-test shows that T-count is 2.129 and T-table is 1.656, with the sig value of 0.035. Since the T-count (2.129) > T-table (1.656), then Ho is rejected and Ha is accepted. Therefore, it is assumed that hypothesis based on the T-test for interpersonal relations variable significantly influence the performance appraisal objectivity in Company X.

The result of this study shows that interpersonal relation affects the objectivity of performance appraisal in Company X. This result obtained is consistent with those as stated by Stoetzer who defined the interpersonal relations as a firm relationship between two or more individuals. Likewise, Dachner pointed out that to create, develop, and maintain a certain relationship, there are four domain skills that individuals should have which are; trust and willingness to get to know each other, good communication, able to take and give support, able to solve the problem properly, including emotion coping. This result is also in line with the results of the data frequency distribution questionnaire of interpersonal relations variable, where the highest response (59%) supports proposed statements related to those variables.

The Influence of Performance Appraisal System toward Objectivity of Performance Appraisal in Company X. The result of hypothesis testing with T-test shows that the T-count is 7.444 and T-table is 1.656, with the sig value of 0.000. Since the T-count (7444) > T-table (1656), so Ho is rejected and Ha is accepted. Therefore, it is stated that hypothesis regarding T-test of performance appraisal system variable significantly influences the objectivity of performance appraisal in Company X.

The result of this research shows that the performance appraisal system significantly influences the objectivity of performance appraisal in Company X. These results are in accordance with Cavalluzzo and Ittner who stated that appraisal system is an output result of performance appraisal which has an expectancy-value, an effective appraisal instrument, and an effective assessor valence. Following this result, Robbins stated that there are three criteria for doing the performance appraisal, which is (a) individual tasks; (b) individual attitudes; (c) individual characteristics.

The Influence of Organizational Culture, Interpersonal Relation, and Performance Appraisal System to Objectivity of Performance appraisal in Company X. The result of simultaneous test proved that there is a positive and significant relationship between organizational culture, interpersonal relation, and performance appraisal system to the objectivity of performance appraisal. The result obtained from F-test resulting F-count of 57.352 with the significance level of 0.000. Due to sig < 0.05, the regression model can be used to predict the objectivity of performance appraisal. Since the hypothesis of the sig value < 0.05, so Ho is rejected and Ha is accepted, which means that the hypothesis which stated that organizational culture, interpersonal relation, as well as performance appraisal system, significantly influence the objectivity of performance appraisal in Company X is true.

Moreover, the results of this research are in line with the result of data distribution frequency of questionnaire answers for performance appraisal objectivity variable, where the highest answer (59%) supports the proposed statements of those variables.

In addition to the explanation above, it can be concluded that the theory of organizational culture, interpersonal relation, and performance appraisal system toward objectivity of performance appraisal is proved and can be explained to increase the objectivity of performance appraisal in Company X. Therefore, according to the hypothesis test with F-test in this research, organizational culture, interpersonal relationship, and performance appraisal system are all important variables which influence the objectivity of performance appraisal in Company X.

CONCLUSION

Hypothesis Conclusion. Based on multiple regression calculations with Windows SPSS Software, the hypothesis conclusion is as follows:

The higher the Organization Culture, the higher the objectivity performance appraisal, meaning the objectivity performance appraisal is built on organizational culture indicators.

The higher the Interpersonal Relation, the higher the objectivity performance appraisal, meaning the objectivity of performance appraisal is built by indicators of interpersonal relationships.

The higher the Performance Appraisal System, the higher the objectivity performance appraisal, meaning the objectivity of performance appraisal is built by Performance Appraisal System indicators.

Theoretical Implications. The theoretical implications of this study can be suggested through the following points:

- Organization culture has a positive influence on performance appraisal objectivity, this supports previous research conducted by farashahi et al., (2005). ahmad, (2012).
- Interpersonal Relation has a positive effect on performance appraisal objectivity performance, this supports the previous research conducted by stoetzer, (2010)
- Performance appraisal system has a positive effect on performance appraisal objectivity, this supports previous research conducted by ochoti et al., (2012).

Managerial Implications. The policy implications of this study can be suggested through the following points:

Company X needs to improve the organizational culture through employee's self-development, employees who have run their responsibilities by completing the job quickly and on time need to be given self-development, it is expected that employees feel more appreciated, and fulfilled the need for his own development.

Company X needs to improve the performance appraisal system by providing the widest opportunity for employees to develop their skills and knowledge by providing regular training opportunities, providing opportunities to continue the educational level either with corporate scholarships or own expenses as well as promotional opportunities for them who has potential.

Company X needs to improve Interpersonal Relation by providing equal rewards for employees by providing salary and incentive according to the achievement of targets, of leave incentive and life/health insurance and held a family gathering once a year to improve relationships among family employees.

Limitations of Research. Some research limitations that can be drawn from this research are as follows:

- The limitations of this research model due to a limitation of the low variable which explaining performance appraisal objectivity at Company X needs, which is indicated by the value of the coefficient of determination is relatively small.
- During the process of distributing questionnaires, there are only 49 respondents returned, therefore need redistribution to meet the 132 respondents.

Future Research Agenda. The results of this study and the limitations found in the research can be a source of ideas for the development of this research in the future, the extent of the research suggested from this study are:

- Adding independent variables that affect the performance appraisal objectivity. The suggested variables are self-efficacy, this is because in providing services to the public is necessary to have a high confidence of the employees to increase the trust of service of Company X, with high self-efficacy employees are able to solve the problem well.
- During the process of distributing questionnaires, it should be done by meeting them directly one by one so that the respondents understand the questionnaire's questions that already given.

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THE INFLUENCE OF ENTREPRENEURIAL ORIENTATION ON BUSINESS STRATEGY AND PERFORMANCE OF MEDIUM-SMALL SCALE SASIRANGAN INDUSTRIES IN SOUTH KALIMANTAN PROVINCE

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ABSTRACT

This study aimed at investigating the direct influence of entrepreneurial orientation on business strategy and the performance of medium-small scale industries. This study was conducted to Sasirangan medium small scale industries in South Kalimantan. There were 83 samples used in this study that were chosen using the purposive sampling method from 3 cities or districts in South Kalimantan (Banjarmasin, Banjarbaru and Martapura). Data of this study were collected through observations, questionnaires and direct interview with medium small scale Sasirangan business owners using interview guidelines. Secondary data were obtained from the Government of South Kalimantan Province and other related institutions. The obtained data were analyzed using the GSCA (Generalized Structured Component Analysis). The results of the data analysis show that entrepreneurial orientation significantly and directly gives positive influence to business strategy and business performance of the industries. Furthermore, business strategy also appears to have direct positive and significant influence to the performance of the industries.

KEY WORDS

Business performance, business strategy, entrepreneurial orientation, South Kalimantan.

Medium small scale industry is a part of entrepreneurship. This type of industry has been known to successfully survived the economic crisis in Indonesia. Indonesia faced a major economic crisis which caused stagnancy to large-scale industries. However, during the crisis, small and medium scale industries had stronger protection to survive. This phenomenon has raised optimism to developing countries to improve their economic condition (Altinay and Wang, 2011). Empowerment of medium small scale industries is considered necessary to do in both developed and developing countries since it holds a crucial role in the development of a nation's economy. The medium small scale industries also have better adaptability in adjusting to the fluctuation of economic condition (Kaballu and Kameo, 2001). Besides, the industries also give strong contribution to the employment program (Tambunan, 2005). According to Price (2004), medium small scale industries make 51% contribution to the gross domestic product of private sectors and dominate 47% of business transaction.

Medium small scale industries also experience various problems. Kirby and Kaiser (2003) stated that the industries usually suffer from some issues including the lack of entrepreneur values, funding, marketing and other external factors such as the macro-economic condition, legal policies, and fulfillment of the facilities that influence the growth of this sector. According to Teck (2012), owners of this sector usually established their enterprises due to personal economic motives or issues that had them become less creative in running their business because most of them focused on only the profit rather than the growth of the business itself. In another word, environmental business factors were less considered.

Considering the importance of determining entrepreneurial orientation in order to achieve better competitiveness and success of the business, medium small scale industries should improve their entrepreneurial orientation in running their business activities which can also be used as the base in designing and implementing the best strategies to face the tight

business competition. Zhi and Jintong (2012) explained that companies that apply business strategies based on clear entrepreneurial orientation through innovation, dare to take any risks, and proactive attitude in conducting their activities tend to have better response to business fluctuation that occurs. It is also stated by Gurbuz and Aykol (2009) that small-scale industries with better entrepreneurial orientation tend to apply precise strategies in running their business which results to better performance capability in facing the competitive competition. Several empirical studies have shown direct influence of entrepreneurial orientation on the improvement of business strategy and business performance (Litunen dan Nittykangas, 2010; Zhi dan Jintong , 2012; Boso *et al.*, 2013; Gurbuz and Aykol, 2009). Precise business strategy is important to applied in medium small scale industries since they are required to be keen on identifying any possible opportunities and threats in their business environment. Determination of the precise business strategy also gives positive contribution to excellence business performance and achievement.

LITERATURE REVIEW

Entrepreneurial Orientation. Zhai and Jintong (2012) stated that companies with entrepreneurial orientation are the antecedents of business strategy implementation through innovation, risk taking and proactive attitude in performing their business, which lead them to have better ability in facing the dynamic market condition. Gurbuz and Aykol (2009) emphasized that entrepreneurial orientation is the key to enhance the business performance.

Lumpkin and Dess (1996) Wiklund and Shepperd (2005) stated that entrepreneurship deals with strategic orientation covering some aspects of entrepreneurship including the style, method and innovative actions to make a change. Gurbuz and Aykol (2009) also highlighted that entrepreneurial orientation is the key to enhance the performance.

Zimmerer and Scarborough (2002) mentioned that owners of small-scale industries have the belief that hard work to develop their own enterprises makes them happier than being employed by big companies. McGrath (1999) mentioned that companies with entrepreneurial orientation have stronger potential to make more profitable variations in business performance in long term when the variations are integrated with other strategies.

Meredith *et al.* (2005) explained that entrepreneurs are people who have the ability to predict and analyze any business opportunities, provide any necessary resources to make higher profit and to take the best steps to be successful. Entrepreneurs have made positive changes in the business world by showing never-give-up attitude in facing any obstacles in order to achieve the goals of the companies which have been previously planned (Machfoedz, 2004). This attitude is regarded as a reflection of entrepreneurial orientation which reflects managerial capability through innovation, risk taking, and being proactive in running the business (Miller, 1983). Entrepreneurs with entrepreneurial orientation are relatively capable in identifying any opportunities and implementing the most appropriate business strategy to advantages from the opportunities.

Business Strategy. Gurbuz and Aykol (2009) stated that small-scale industries which have the entrepreneurial orientation tend to apply various appropriate strategies and management system in running the business which result to better performance in facing the tight market competition. Furthermore, companies are also able to make profit from being keen on identifying opportunities in the business environment and eventually develop the competitiveness of the companies by implementing effective strategies (Bastian and Muchlish, 2012). Zhi and Jintong (2012) also stated that companies which apply certain business strategies in running the business tend to remain strong even in the ever-changing business condition.

Business strategy has been continuously discussed in the field of micro-business seen from the conservative point of view up to the proactive-reactive one (Covin and Slevin, 1991). Review on the literature related to strategic planning and business performance shows that performance obtained higher level than proactive companies but it did not improve the strategy (Covin and Slevin, 1991).

Kotler (2002) defined strategy as a plan to achieve certain business goal done by a company. Every business unit has to plan a strategy to achieve its goals including the marketing strategy, technology advancement strategy and resource management strategy. Porter (2005) explained that in order to win the market competition, a business unit should concentrate to create; (1) cost leadership, in which a company should set lower product price compared to other competitors. (2) differentiation, in which a company should focus on the product, and (3) focus, in which cost leadership or differentiation are used to focus on certain specific market or customers.

The Performance of Medium Small-Scale Industries. Chakravarthy (1986) stated that corporate performance is a construct that is generally used to measure the effect of certain strategic orientation applied in a company. Pelham and Wilson (1996) defined performance as the success of a new product released to the market by a company and market developer that can be measured from the growth of sale and market share.

A study done by Bittici, et al. (2000) explains that business performance is measurable through the sales, sale expenses, assets, product images, and fixed assets owned by a company.

Conceptual Framework. Seong (2011), Zhi and Jintong (2012), Gurbuz and Aykol (2009) have measured significant influence of entrepreneurial orientation consisting of innovativeness, proactiveness and risk taking toward business performance that covered sales growth, profit improvement, asset growth. Lee and Tsang (2001) have conducted a study on the influence of entrepreneurial orientation emphasizing on the characteristics of the businessman including the indicator of entrepreneur personality, entrepreneur's background and network activity toward business performance that consisted of sale growth, profit improvement, and asset growth which show different results.

Gurbuz and Aykol (2009) explored the role of entrepreneurial orientation (EO) to the corporate performance which resulted an alternative contingent model which proposes the role of mediation seen from the managerial orientation factor to the relationship between entrepreneurial orientation and corporate performance, as well as the factors of managerial orientation which directly influences the performance.

Accordingg to Hashim *et al.* (2001), effectiveness of a strategy can be measured by investigating the business environment. Hence, business strategic should be synchronous with the organizational environment to achieve excellent performance. Other research supporting the implementation of entrepreneurial orientation and its correlation with corporate performance was done by Galetić and Milovanović (2004). In their study, they used the term entrepreneurial orientation to refer to the process of strategic planning and the styles applied by companies in running their business. The result of their study show a positive correlation between entrepreneurial orientation and business performance measured from sales growth in hotels in Coratia. Research supporting the implementation of entrepreneurial orientation and its correlation with corporate performance was conducted by Galetić dan Milovanović (2004). In the research, entrepreneurial orientation was used to refer to the process of strategy planning and management style in running a business. The result of the study indicated a positive correlation between entrepreneurial orientation and performance seen from sales growth as the indicator done in Hotels in Croatia.

Hashim et al. (2011) explored the role of business strategy to business performance which resulted to an alternative contingent model. The model emphasizes the role of mediation among environmental factors within the correlation between business strategy and performance and it also taps on the direct influence of business strategy on performance.

Dani et al. (2013) also explored the role of management ability to business performance which resulted to an alternative contingent model as presented in Figure 3.3. Furthermore, the alternative contingent model proposed by Dani et al. (2013) focuses on the role of management ability which directly influences the business performance. The available models can be used as the base in designing the conceptual framework, yet they cannot be simply adopted without modifications.

Suci (2009) conducted a study on the improvement of business performance through entrepreneurship and business strategy. The result of the data analysis showed that

business strategy has certain influence on the performance. Meanwhile, Hashim (2000) mentioned that the performance of SMEs in Malaysia varied due to different preferences of business strategy adopted by the companies.

Based on the review of the related literature, considering the results of previous research and the research framework of this matter, 3 hypotheses of this study were formulated as follow:

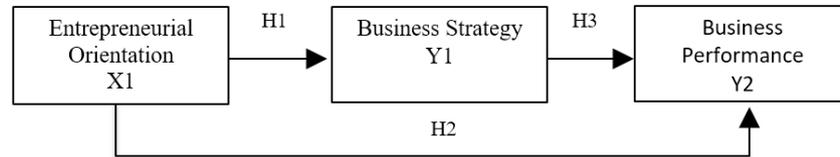


Figure 1 – The Conceptual Framework of this Study

Research Hypotheses:

H1: Entrepreneurial orientation significantly influences business strategy;

H2: Entrepreneurial orientation significantly influences the performance of medium small scale industries;

H3: Business strategy significantly influences the performance of medium small scale industries.

METHODS OF RESEARCH

This study employed a quantitative approach (positivism) since the data obtained from the survey were numerical data which were later analyzed using the statistical measurement to answer the research questions and to test the research hypotheses. Results of the statistical test were used to explain the position of the research variables and to predict the relationship between the variables (Creswell, 2009).

This study was generally aimed at testing and explaining the influence of entrepreneurial orientation on business strategy and business performance in medium small scale industries. Regarding to the objectives of this study, this study is regarded as an explanatory research. Explanatory research is conducted by identifying the facts or phenomena related to certain object in order to provide thorough explanation on the phenomena based on the interaction between the variables of the study (Sugiono, 2008). In addition, this research is also a cross-sectional research in which reviews were done based on certain perception and information provided by informants at the same time.

The population of this study was 86 owners of medium small scale *Sasirangan* industries in South Kalimantan who were also participated as the samples of this study (census). Act Number 20 of 2008 mentioned that small scale industries are productive independent enterprises and are not branches of other companies owned and manage directly or indirectly by medium scale industries or large scale industries. Small scale industries have characteristics which are mentioned in the Act Number 20 of 2008.

The data obtained in this study were then analyzed using descriptive analysis and inferential statistic measurement namely the Generalized Structured Component Analysis (GSCA). Primary data were collected from the questionnaires distributed to the respondents who were owners or managers of *Sasirangan* small scale industries based on the instruments used in this study. Whilst, secondary data were obtained from the Department of Industries of South Kalimantan, Central Bureau of Statistics, and other related institutions.

RESULTS AND DISCUSSION

The Influence of Entrepreneurial Orientation on Business Strategy. Entrepreneurial orientation was found to have a positive, direct and significant influence on business strategy. The result fo GeSCA test shows path coefficient at 0.215 and CR 4.22* (significant

with positive mark). Hence, it implies that entrepreneurial orientation applied in small scale *Sasirangan* industry directly improves the business strategy. Both variables share a positive relationship which means that entrepreneurial orientation in the forms of innovation, risk taking and proactive attitude lead the companies to find better and more precise business strategy. It can be understood that the determination of business strategy gets better as the implementation of entrepreneurial orientation enhances.

The finding of this study describes that in order to create better competitiveness to compete in the ever changing business condition, companies need to set precise orientation to overcome various obstacles in running the business. Success of small scale companies can also be achieved by implementing appropriate business strategies. Meredith *et al.* (2005) stated that entrepreneurs are people who have the ability to predict and take any opportunities, manage the available resources to obtain higher profit and take precise actions to achieve the success. Entrepreneurs have brought significant changes in business world by showing tough attitude in dealing with obstacles and issues in order to achieve success through a set of well-planned strategy (Machfoedz, 2004). This attitude is regarded as entrepreneurial orientation that reflects managerial ability through innovation, risk taking and proactive actions in running a business (Miller, 1983). Entrepreneurs with adequate entrepreneurial orientation are relatively capable in implementing the best business strategy to make the most out of the available opportunities.

The result of this study supports the finding of a study done by Oscar *et al.* (2009) which result shows that entrepreneurial orientation positively influences the market orientation. Suci (2009) also found that entrepreneurial orientation has a positive and significant influence on the business strategy. Therefore, it can be implied that higher entrepreneurial orientation provides easiness for a company to focus and implement the appropriate business strategies including differentiation, low budget and focus. Each of the strategy can be used as a single strategy or it can be combined one with another to obtain the most precise strategy. Furthermore, this study also supports Lee & Tsang (2001) which result of the statistical analysis shows that a small organization which applied organizational transformation and strategic innovation through creation and combination of competence is also influenced by owner's characters, and the strategic attitude reflects the characters of a small business owner. The result of this study also supports the ones conducted by Litunen & Nittykangas (2010); Seong (2011); Dani (2013) who confirmed that entrepreneurial orientation directly influences the business strategy.

Theoretically, the result of this study goes in line with the one found by Storey (1994) in which it is stated that the development of entrepreneurial orientation is necessary in reviewing business strategies applied by medium small scale industries. This point is emerging since personal attribution of a business owner has a strong influence in the determination and implementation of certain business strategies. Zhi and Jintong (2012) also support this view in which it is indicated that companies with entrepreneurial orientation tend to be the antecedent of business strategy implementation through innovation, risk taking and proactive attitude in running the enterprise. As the result, those companies eventually found and implement the best strategy to face the dynamic business environment. Similar view was proposed by Gurbuz and Ayikol (2009) that medium small scale business with entrepreneurial orientation tend to apply the most effective strategy which eventually gives better business performance to compete and win the competition.

The Influence of Entrepreneurial Orientation on the Performance of IKM. Entrepreneurial orientation has been found to have a direct significant and positive influence on the performance of *IKM*. The result of GeSCA test obtained a path coefficient at 0.250 and CR = 8.30* (significant) with positive mark. It implies that the implementation of entrepreneurial orientation in *Sasirangan* small business directly enhances the performance of the enterprises. This also shows that the implementation of entrepreneurial orientation combined with the application of appropriate business strategy even accelerates the improvement of *IKM* performance. This finding motivates owners to make innovations, dare to take risks, and to become proactive in order to let entrepreneurial orientation improve the sales growth, higher profit and grow the capital as the variables of *IKM* performance. This

finding is empirically supported by the fact that the better the entrepreneurial orientation the better the performance of *IKM*. This result also reflects that well-managed entrepreneurial orientation is able to improve the performance of *Sasirangan IKM* in South Kalimantan.

The finding of this study also supports findings of previous research such as the one conducted by Litunen and Nittykangas (2010) who investigated the influence of entrepreneurial orientation on performance which finding shows that the entrepreneurial orientation has a positive and significant influence on the development of business companies. Similarly, Zhi and Jintong (2012) have measured the influence of entrepreneurial orientation on business performance. The result of their study shows that indicators of entrepreneurial orientation including the innovativeness, risk taking and proactive attitude positively influence the performance of medium small scale business (SME's). In addition, the result of this study also supports the findings of Boso *et al.* (2013); Dani (2013); Gurbuz and Aykol (2009), Suci (2011) which state that entrepreneurial orientation directly gives positive contribution to corporate performance.

The result of this study is also in line with McGrath (1999) which states that companies with good entrepreneurial orientation have higher potential to obtain variety of performance which is profitable in longer term when it is integrated with appropriate business strategies. Stainhoff and Burgess (1993) mentioned some characteristics of successful business: having clear corporate visions and missions, willing to take risks of time and money, working based on clear plan and organization, working hard based on the level of priority, enhancing the relationship with the customers, suppliers, employees and being responsible upon corporate's success and failure.

The Influence of Business Strategy on the Performance of IKM (H7). Business strategy positively and significantly influences the performance of *IKM*. The result of GeSCA obtained a path coefficient at 0.571* and CR = 17.99* (significant) with positive mark. This result means that implementation of appropriate business strategy in *Sasirangan* small business is able to improve its performance. This also implies that the more appropriate implementation of low-budget strategy, differentiation, and focus strategy as the variables of business strategy would be stronger in improving the sales growth, profit growth, and capital growth which are the variables of business performance.

The finding of this study adds up to the body of knowledge especially on the theory of Pierce II and Robinson (2007) in which it is defined that strategic management is a set of decisions and actions to plan certain steps to achieve certain corporate's goals or objectives. The path of strategic management forms certain order of decisions and actions which are oriented at determining one or more than one strategies that are considered effective to achieve the corporate goals or objectives (Jauck and Glueck, 1988). This study also strengthens the research finding of Parnell (2010) who investigated the relationship between business strategy and business performance of retailers in The United States and their complexities. The result of this study shows a positive and significant influence of business strategy on business performance within a relatively short time and it is found that better business performance gives better profit in the long term. In line with this finding, Acquaah (2013) has confirmed that business strategy influences the organizational performance of family-owned business. Some other research including the ones conducted by Man dan Wafa (2008), Bordean *et al.* (2010), Mohd *et al.* (2013), Hsu (2012), Li and Tan (2013) have also confirmed the positive and significant influence of business strategy on business performance.

CONCLUSION AND SUGGESTIONS

Based on the result of this study, conclusions are drawn as follow:

Entrepreneurial orientation applied by owners of *Sasirangan IKM* owners has been confirmed to support the business strategy. This means that entrepreneurial orientation directly influences the implementation of business strategy. It also reflects that owners of *Sasirangan IKM* who have entrepreneurial orientation tend to apply more appropriate business strategy in running their business. Furthermore, if they apply innovation, dare to

take risks and become proactive, they would be highly capable in identifying any business opportunities which create better competitiveness by implementing appropriate business strategy.

The implementation of entrepreneurial orientation in *Sasirangan IKM* has been proven to improve the performance of *IKM*. Thus, it is implied that entrepreneurial orientation directly influences the performance of *IKM*. The finding of this study is also supported by the empirical fact that the better the implementation of entrepreneurial orientation, the better the performance of *IKM*. This finding shows that well-managed entrepreneurial orientation gives better contribution to the performance of *IKM* in South Kalimantan Province.

Overall, the result of this study shows that entrepreneurial orientation and business strategy have significant influence on business performance.

Regarding to the result of this study, the discussion, and the limitation of this study, suggestions were made as follow:

Effectiveness of entrepreneurial orientation in improving the capability of *Sasirangan IKM* owners can be obtained by implementing innovation, dare to take risk, and being proactive which appear to be positive characteristics of entrepreneurs in improving their performance.

Companies should stay innovative in implementing their business strategy which is the crucial component that determines the business sustainability. Therefore, *Sasirangan IKM* should always try to find effective ways in promoting their products by acting proactive in running their business and try to produce high quality products with high competitiveness and uniqueness and they are also suggested to utilize the advancement of technology to make the production more effective and efficient.

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PARTICIPATIVE MAINTENANCE OF UPSTREAM PUSUR SUB WATERSHED AREA THROUGH THE CONSERVATION FIELD SCHOOL IN MRIYAN VILLAGE OF BOYOLALI DISTRICT, INDONESIA

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ABSTRACT

This research is done to describe the process of participative maintenance by conservation field school the upstream area of Sub Watershed Pusur. This research used qualitative approach with descriptive strategy in Mriyan Villages Sub District Musuk District Boyolali. The data collection techniques used for research are interview method, focus group discussion and participative observation. The people of Mriyan's support is actualized in the form of conservation field school, the effort and the decision making, that are actively in charge in social learning, net working, and maintaining the resource of thee people.

KEY WORDS

Conservation field school, participative maintenance, upstream area, sub watershed pusur, farmer.

The river stream area simply meant as an area where the water flow from the upstream to downstream. If we follow the policy of the law that have been realized by the government which is the '*UU No.7 Tahun 2004*, watershed is understood as a landmass that are one in unity with the river and its creeks and it has the function to naturally contain, saving, and flow the water from rainfall into the lake or the sea. Physiographically (Geomorphology) watershed is classified into three kind of area. First is the upstream area. This area has the characteristic as a production area or commonly known as water infiltration area. Second is the middle stream area. These areas function as a metrial distributor that is produced from upstream area. Third is the downstream area. Coming from the maintenance issue mentioned above, there are things that need to be examined regarding Sub Watershed Pusur. The sub watershed Pusur area span across the upstream until the downstream where the downstream is located in the Sub- District Juwiring area and the Sub-District Delanggu, District Klaten, Central Java Province, that ended into the primary stream of Bengawan Solo River and is the middle tranverse part of Sub-District Polanharjo and the Sub-District Tulung District Klaten. While, the upstream part span upward in Sub-District Musuk District Boyolali (BPDAS Solo: 2015).

Ever since 2003, comunity based program and activities with the regard of the Sub Watershed Pusur maintenance was initiated. The development can only touch those in downstream and middle area. Some institution and community element have intervene on the subject. The performance that was conceptualized have been referring to one plan and one policy. However, the reinforcement in the upstream area is not really touched and it tend to be ignored. In role, upstream area is the supporting area and also the water absorption area (production function). If it is not touched and centralized, the impact will be the unbalanced ecosystem of upstream, middle, and downstream area. Talking about upstream area, the condition of upstream area in sub watershed Pusur is having quite a change across time. The condition of ecosystem degradation is also been worsened by the increased number of critical land in the village of that upstream area (Chay Asdak: 2014).

One that becomes a concern is Mriyan village. The condition of the critical land in Mriyan village can reach into 269.6869 ha. With the critical land composition reaching the number 115.7875 ha and land with critical potential within 153.8710 ha. This number is increasing looking back at the last two years. The number of critical land that is increasing is also affected by the intensity of disaster that is increasing every year. From the eruption of

Merapi in 2010, Mriyan village is known as the village that brought the biggest erosion chunk and landslide (BPBD Boyolali: 2014). The great amount of point with the 45° slope, and the absent of vegetation cover caused by the tobacco commodity in the villager's land. With the emergence of this various problems, it will threaten the living system of the community. Thus, periodical assistance and the awareness of natural conservation are needed. One of the suggestion that are deemed as fitting is the '*Conservation field farmer*' that have been running since 2016.

METHODS OF RESEARCH

This research is done in Mriyan village Musuk Sub-District Boyolali Regency. The location is chosen in accordance to some reason: (1) Mriyan village is a water catchment area, (2) Mriyan village is an upstream area with the potential of the largest area in comparison with other village in upstream area of Sub Watershed Pusur that serve as a production area and the support location in the middle and the downstream, (3) it has a significant problem from the high number of critical land, the high number of disaster intensity, and the decrease in the erosion defensive vegetation, (4) The receiver and the participant community that support the conservation program in the Sub Watershed Pusur area. From the study on the problem that are present in the area of Mriyan Village and the program that have already been initiated from 2015, researcher understand deeply in regard to any social dynamic that are present using the approach of qualitative descriptive research. The data source that is used is data taken from the actual site (primer) and data taken from document, archive, and documentation result in accordance to the research (Deddy Mulyana: 2001). This research is done with the duration of 11 month from December 2016 to October 2017. For the success of this research, the research employ the research technique with in-depth interview, observation with participation, Focus group discussion (Jerome Kirk and Marc L. Miller,: 1985). For the validation of data, this research is strengthened by the triangulation technique. In deciding the research subject, the researcher is leaning toward "purposive sampling" or commonly known as "criteria based selection" (Goetz & Le Compte: 1984). The researcher position is to choose purposively based on various judgment and criteria determined by the researcher. There are certain rules and standardization for deciding the informant subject. The data processing and analysis use Miles and Huberman analysis method.

RESULTS AND DISCUSSION

Mriyan Village and Sub Watershed Pusur Condition. In administration, Mriyan village is located in Musuk Sub District and Boyolali District Central Java Province. It is surrounded by national forest under the management of Merapi Volcano National Park. Hidrologically, it is included as an upstream area of Sub Watershed Pusur. The distance it has from Mount Merapi is 5 km, causing a high potential of eruption disaster in the area. It has been included as an area of extreme disaster awareness I.

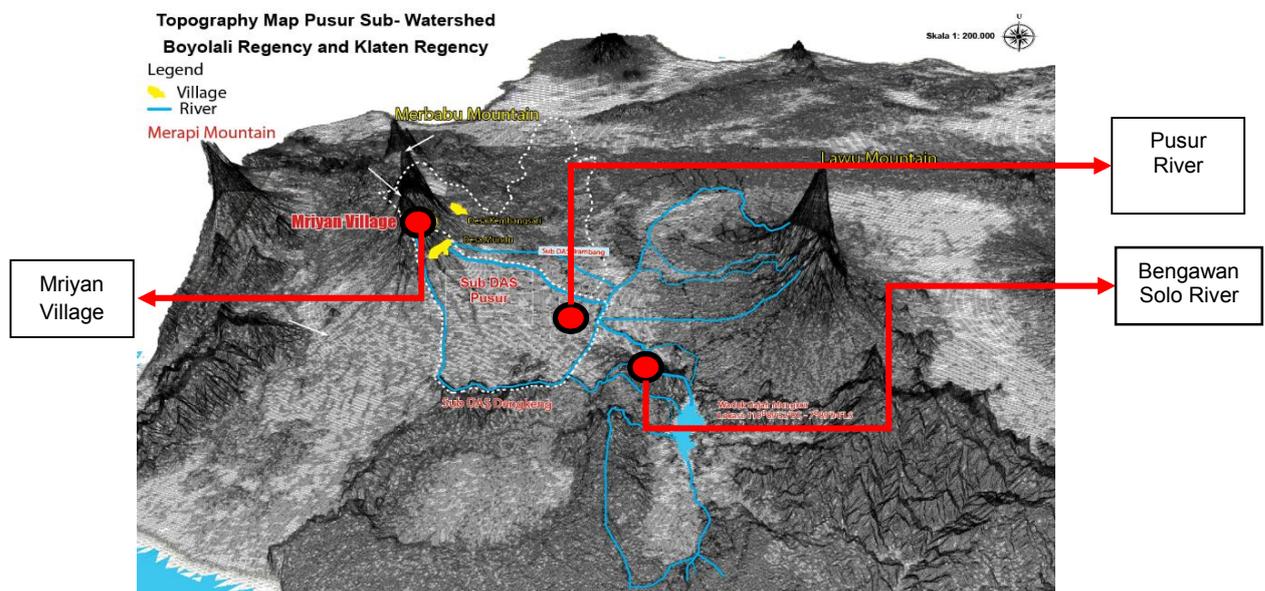
Table 1 – The Mriyan village usage of land

| Number | Land Use | Total |
|--------|-----------------------------------------------|-------------|
| 1 | Yard/Building / Emplacement | 59.3225 ha |
| 2 | Farm / Garden | 153.8715 ha |
| 3 | Prairie area | 25.0000 ha |
| 4 | Forest land | 15.0000 ha |
| 5 | Others (Graveyard / public facility / social) | 31.4650 ha |
| | Total | 284.6590 ha |
| 6 | Bended land/Village inventory | 36.9605 ha |
| 7 | Potentially Critical land | 153.8710 ha |
| 8 | Critical land | 115.7875 ha |

Data source: *Mriyan Village Monograph, 2016.*

The height that reach 1,342 ha place Mriyan village as the highest along the hidrology line of the Sub Watershed Pusur. It is also an area with 284,659 wide of water catchment area in comparison with other village that are in the upstream Sub Watershed Pusur area.

The hilly location and the steep cliff that are more than 15% indicate an appropriate location for conservation intervention. The condition of the problem is also apparent with the high of critical land number that is present in Mriyan Village. From the table1, it is explained that the area of the land with critical condition can reach the number of 153.8710 ha. While the land with critical condition can reach 115.7875 ha. With the area that are divided into three hamlet. There are 21 household with 3,219 people, with profession dominated by farmer. Other people do trading, civil servant, and work in private sector. The condition of spatial conditioning of Mriyan village is divided by hamlet. I, II, III is bordered by cliff with high rate of slope. Because of that, to access the inter-hamlet location we have to cross the cliff first. The prized commodity of the people is tobaccos. While, for the daily need the people is heavily helped by sprinkled rose flower. Nearly every farmer in the area of Mriyan village sell Rose flower. Every day, they sell it by Rp. 15.000 - Rp. 20.000 / 2 Kg.



Picture 1 – Topography Map of Sub Watershed of Pusur

Mriyan village position with the most upstream topography is important for the conservation of Sub Watershed Pusur. In general Sub Watershed Pusur is known locally as Pusur river. It span across 36,576 Km. Pass by Klaten and Boyolali in the Central of Java. The river divided into several parts. The upstream is on Musuk regency, Boyolali; the main-river on Tulung regency; and downstream on Delanggu, Juwining and Wonosari regency, Klaten. Pusur is categorized as a small river because of its width. The average width for a river is 7-10 m (Heinrich dan Hergt, 1998). The estuary of Pusur intersects to Bengawan Solo, the biggest river in Java. As part of watershed, a strong affinity in Pusur is needed because the river is expected to balance the ecosystem around it.

Pusur Sub Watershed Management Through Conservation Field School. Indeed there are activities focusing on the environment of Pusur since 2003. Those activities are the result of cooperation with local government and PT. Tirta Investama Klaten with their CSR (Cooperate Social Responsibility) program. All of the activities are partials, an integrated participation among upstream area, downstream area and main-river area is not yet happen. Hence, an idea to manage the upstream area of Pusur watershed appears.

There are activities that could be implemented for this problem. To manage Pusur watershed can not be done partially. Indeed, it needs involvement from stakeholders, e.g. private institutions, local organizations and government. Other than that, it also needs a party to organizing the stakeholders. This party will be the one to unite and communicate between

parties in order to manage Pusur watershed, and there are Klaten River School and Boyolali River School, Public Work Services, Agriculture and Plantation Services, Tourism Services and villages alongside Pusur riverbanks. Implementation for this work starts with study of Pusur watershed using transect method in a participatory manner. It starts from upstream area to main-river area (36 km). The purpose for this comprehensive study is to provide the latest data of Pusur. We expected this process to unite parties into a mutual interest.

From some intensive meetings held by the stakeholders, eventually some parties (local government and volunteer communities) came with an idea to form an official institution. The purpose of the institution is to balancing every parties concern regarding their needs of Pusur. The first organizer discussed about activities around Pusur. The upstream area focusing on ground and water conservation, the main-river on waste disposal and water management, the downstream focusing on preventing flood and water management. On February 18th 2017, an institution for discussing problem around Pusur is formed. Each area will have their responsibility to preserve Pusur. This institution is called as “Pusur Institute”, a forum to discuss their knowledge regarding Pusur and its area, e.g. conservation field school which is established in 2015, agriculture school to prevent chemical residue, domestic waste disposal management, and tourist village. In downstream area, disaster prevention and irrigation team will manage irrigation. From this knowledge, Pusur Institute will be the institution to manage all of the activities from upstream, main-river and downstream areas.



Picture 2 – The Process of Institutional Pusur Establishment

People of Mriyan refused to plant crops on their land which is considered will shift the seeded plants, tobacco and rose sowing. Indeed, people need to be explained and given the alternative solution to replace tobacco and rose sowing. Because of this problem, conservation field school was built by local government for one period. The process in operating conservation school takes a long time with systematic routine activity. There are systematic activities processes of field conservation school: (1) Early organizing by choosing the location, member, and building a commitment. The first step done by facilitator is social organizer process. Choosing a good location for field school is determining the success. The location should be strategic, easy to reach by farmer, and become a learning center for farmer. A member who will participate has to commit to do field school. (2) Identification field test as media learning. Field test is media test to find a new knowledge in field school. Field test will be a source of knowledge for farmer. (3) Learning Contract. Learning contract for field school aims to give a motivation and build a commitment together with the member of field school. (4) Make a curriculum becomes the learning object for field school which gets from identifying problem. The finding problem becomes a learning object for the process of field school. (5) Routine meeting. Conservation field school will operate periodically. The schedule is created by an agreement in the forum. Basically, it was done for one period. (6) Reflection activity. Reflection in field school will be done by participative. The purpose is to find and to see the effect of conservation field school. Basically, model of conservation field school in Mriyan village divided into 2 aspects.

For more explanation will be explained below:

Chrysanthemum Flower School. Field school of chrysanthemum flower is not emerging because of the program brought by facilitator. It is because of the needs of female farmer group of Sekar Dewani in order to increase the number of female farmer group's capacity. In addition, it looks from the local ability. The majority of female farmer member in Mriyan village has ability in flower cultivation even though the types of flower are different. However, the treatment for the plant is not different. It begins from visiting chrysanthemum flower cultivation farmer in Kaliurang City, Sleman Regency, Yogyakarta Province. They start too curious to adopt the technology of chrysanthemum flower cultivation.



Picture 2 – Process of field school of Chrysanthemum flower in Mriyan Village

Field school of chrysanthemum flower followed by 20 farmers comes from housewife. After take care their child and house, they start to do their routine activity. Every Thursday, they gather and begin with routine observation. Start from the development, leaf condition, stem, and treatment to chrysanthemum, it will be noted in details to make sure the adaptation of chrysanthemum flower in Mriyan village land. It is still on the test category right now and the next step will be on strengthening period for the technique and business farmer. There is one facilitator comes from LPTP (*Institute for Rural Technology Development*) Surakarta and one expertise farmer from Kaliurang that still commit to build a network with female farmer of Sekar Dewani. Chrysanthemum flower school is held 4 months in one period. It starts from the seed selection; land manufacture, fertilization, planting, treatment, harvesting, and marketing become one curriculum.

Conservation Field School of Vegetative and Civil Technical. Farmer should find the solution to solve a critical land problem which increases year by year in Mriyan village. Since 2016, village government along with LPTP (*Institute for Rural Technology Development*) Surakarta tries to organize participative in order to find the alternative solution. Learn from the previous year, there is no farmer motivated to do an environment improvement with neither conservation vegetative technique nor civil technique. Hence, facilitator starts to make a step to do mentoring periodically and there should be a field test as a proof for farmer. This proof will motivate the farmer to do that kind of things. Finally, all of them formed in one media as a learning center which called as conservation field school.



Picture 3 – The process of Field Conservation School in Mriyan Village.

This activity is dominated by men in Mriyan village. It consists of 15-20 farmers who active in conservation field school activity. The focus of this field school is looking for alternative solution from some problems especially critical land problem. There are 2 main activities in the process of conservation field school. (1) Understanding vegetative conservative. This activity is varied enough. In the end of 2016, there has been 1.200 plantation planted in the critical land. The types of vegetation are avocado, clove, and sengon. These types of vegetation are chosen because of the productivity and easy, it becomes an alternative solution for farmer's additional income. (2) Understanding civil technique conservation. In understanding civil technique, the activity tends to focus on land manufacture which still considers not appropriate for conservation principle. Almost 20 ha of critical land is not manufacture based on conservation principle. Technique for land manufacture still in the vertical form which means it is not cut hillside. As a result, it cause the land can't keep rain water. Rain water will go to the lower places and can't force to stay in the way it was passed. Hence, it cause the number of erosion is high. If we see from the effect, field conservation school gives several alternative solutions. In economic aspect, chrysanthemum flower commodity of conservation school directly gives some new business choices for farmer. From test land that was done, first step of chrysanthemum flower school, there is still one test land. In the strengthen technique in the second step, farmer begin to be brave to implement on their yard. The amount of adopter is 11 yard of household which uses to cultivate chrysanthemum flower. Economically, it is quiet promising for farmer. One bunch with 10 chrysanthemum flower can reach the price 10,000 – 20,000. It especially when entering to wedding season, school graduation and Ramadan. The flower demand is high. The size of 15m x 4m chrysanthemum flower land, it can produce 5,000,000 / season.

CONCLUSION

The Conservation field school is a form of Mriyan village community participation in managing, maintaining, and protecting Pusur Sub Watershed conservatively. This participation from Mriyan community is actualized in the form of conservation field school, initiative and decision-maker, has an active role in field school (Social Learning), networking (Net Working), and human resources management. Through this things, management will affect to the sustainability of Sub Watershed Pusur, emerging collective institutional between parties to return to care to Sub Watershed Pusur, and encourage all stakeholders in maintaining Sub Watershed Pusur with the conservation principle. Two approaches to conservation field schools have an impact on capacity building and farmers' economic. From conservation side, then it appears chrysanthemum field school. From ecological improvement approach, it emerges conservation field school with the focus on the civil technical and vegetative.

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CROP GROWTH PARAMETERS OF GRAIN SORGHUM VARIETIES (SORGHUM BICOLOR (L.) MOENCH) AT DIFFERENT CROP SPACING

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ABSTRACT

This research aimed at determining morphology, yield and photosynthesis partition of sorghum varieties at different crop spacing had been done at Agro Techno Park of University of Brawijaya (East Java, Indonesia). Observations on crop growth parameters were performed for 4 times (25, 50, 75, and 100 days after planting) which consisted of total leaf area, specific leaf area, leaf area index, crop growth rate and net assimilation rate. The crop spacing of 70 cm x 25 cm proved to provide better value for most parameters, except for crop growth rate and specific leaf area which used 70 cm x 15 cm crop spacing.

KEY WORDS

Sorghum, crop spacing, crop growth, morphology.

Sorghum is a potential commodity and has high economic value because it can be used as food, feed, and export commodities. The people of Rote Ndao Regency (RoNda), Timor Island and its surrounding islands (East Nusa Tenggara Province, NTT) name it as a "rote corn (*jagung rote*)", which is thought to be due to its visual resemblance to corn crops. In this region, sorghum has become an alternative functional food for generations, in addition to rice and corn. However, to the present, the productivity is still low, about 0.37-1.80 tons ha⁻¹, which makes sorghum has not taken farmers' interest as a commercial commodity. In fact, if it is cultivated with a touch of adequate technology, the results can reach 11 tons ha⁻¹ of seeds, with an average of 7-9 tons ha⁻¹ of seeds (House, 1985, Balitbangtan Kementan, 2013) or total dry material above ground level of 27.2 tons ha⁻¹ (Garofalo et al., 2011).

The low production is presumed because sorghum is cultivated simply, it has irregular spacing, and only acts as a limiting crop/fencing crop (to protect the main rice commodities), as practiced by 'rote corn' farmers in RoNda District. Therefore, it is necessary to know the factors that affect the crops through the crop growth analysis approach that aims to determine what environmental factors affect growth and yield (Biscoe and Wellington, 1984). Numerous studies have shown that crop growth and development are influenced by genetic factors (varieties) and environmental factors such as temperature, flux and PAR duration (photosynthetically active radiation), availability of nutrients and water, and loss of photosynthetic tissues (Russelle et al., 1984; Shipley, 2006; Ahad, 1986 in Özalkan et al., 2010).

Crop growth analysis is an important approach for assessing the growth and productivity of crops (Wilson, 1981) or the basic technique used to measure growth components, as a first step in primary production analysis, and is the most practical method for assessing net photosynthetic production (Nogueira et al., 1994) or a quantitative method for describing and interpreting the overall crop system's well-being that grows under natural, semi-natural and controlled conditions (Hunt, 2003). This method can be approached on the individual crop or planting area by using the average of leaf area ratio (LAR), net assimilation rate (NAR), and other similar functions to describe crop growth (Russelle et al., 1984) or by

using primary data such as weight, areas, volumes, and specific contents of crops or crop components to inactivate processes involving whole crops or harvested crops (Hunt, 2003) because growth processes (CGR and NAR) directly affect the economic results of crops (Srivastava and Singh, 1980).

The approach in crop growth analysis includes a number of parameters such as Crop Growth Rate (CGR), Unit Leaf Rate or ULR (also called as Net Assimilation Rate, NAR), Specific Leaf Area (SLA), and Leaf Weight Fraction (LWF) (Watson and Hayashice, 1965; Buttery, 1969; Poorter and Remkes, 1990; Karimi and Siddique, 1991; Hunt et al., 2002; Shipley, 2006; Poorter et al., 2009; Gul et al., 2013; Rahnama, 2006 in Ahmadi, Rad, and Delkhosh, 2014; Li et al., 2016):

$$CGR = NAR \times LAI = (RGR \times LAI) / (SLA \times LWF) = (RGR \times LAI) / (LAR)$$

$$RGR = ULR \text{ (atau NAR)} \times LAR$$

$$LAR = \frac{LA_1 + LA_2}{W_1 + W_2} \quad LWR = \frac{LW_1 + LW_2}{W_1 + W_2} \quad LWF = \frac{LA_1 + LA_2}{LW_1 + LW_2}$$

$$\left(\frac{1}{W}\right) \left(\frac{dW}{dt}\right) = \left(\frac{1}{LA}\right) \left(\frac{dW}{dt}\right) \times \left(\frac{LA}{LW}\right) \times \left(\frac{LW}{W}\right)$$

(RGR) (ULR) (SLA) (LWF)

Where t = time, W is the total dry weight per crop, LA is the total leaf area per crop, LW is the total dry weight of leaf per crop, LAI is the Leaf Area Index, and LWF is the Leaf Heavy Fraction, synonymous with LWR (Leaf Weight Ratio). CGR is the result of multiplication between NAR and LAI, whereas the result of SLA (ratio of leaf area per unit of leaf weight) and LWF (ratio of leaf weight per total of crop weight) is called as LAR (Leaf Area Ratio).

MATERIALS AND METHODS OF RESEARCH

The research was conducted from September to December 2015 at Agro Techno Park location of Faculty of Agriculture, University of Brawijaya (FPUB) in Jatikerto Village, Kromengan Subdistrict, Malang Regency, East Java Province, Indonesia and at a laboratory (Agro Techno Park, Crop Physiology, and Soil Chemistry of FPUB) located at 112.27-112.32° of East Longitude and 8.08-8.05° of South Latitude, 321 m above sea level. The climatic conditions of the site at the time of the study were carried out were as follows: the average temperature was 24.6-27.8°C, the air humidity was 71-86%, the rainfall rate was 1948.6 mm per year (with 7 wet months and 126 rainy days) and solar radiation of 41-81% (Geophysics Station of Karangates Malang, 2015).

The materials used in this study were sorghum seed, urea fertilizer with the dose of 200 kg ha⁻¹, SP-36 with the dose of 100 kg ha⁻¹ (recommended dosage/ recommendation for sorghum) and KCl of 100 kg ha⁻¹, Furadan 3-G, pesticides, and fungicides. The superior varieties used were Numbu, Kawali, Super 1, and Super 2 obtained from Balitsereal, Maros, South Sulawesi Province, while the local variety of Rote was obtained from the sorghum farmer from RoNda District.

The tools used were luxmeter, PS 1200 type Nict Voor scale, 21037 FNR type Memmert oven, leaf area meter (LAM), freezer, tissue, tarpaulin, hoe, machete, sample ring, meter, scale, knife, crowbar, spade, plastic bucket, ruler, and stationeries. The data of temperature, air humidity, rainfall rate, radiation duration, and intensity of solar radiation (global) were obtained from Geophysics Station, BMKG Karangates, Malang.

This study used two-factor Separate Plot Design (RPT) and three replications with Randomized Block Design (RAK) basic design. Factor I (main plot) was varieties of sorghum with 5 levels (v₁ = local varieties of Rote; v₂ = superior varieties of Numbu; v₃ = superior varieties of Kawali; v₄ = superior varieties of Super 1; and v₅ = superior varieties of Super 2). Factor II (sub plot) is a crop spacing with 3 levels (j₁ = 70 cm x 25 cm, j₂ = 70 cm x 20 cm, and j₃ = 70 cm x 15 cm). Observations were performed for 4 times (25, 50, 75, and 100 days

after planting or *HST*) on the following parameters: Total Leaf Area, Specific Leaf Area, Leaf Area Index, Crop Growth Rate and Net Assimilation Rate.

Total Leaf Area (TLA). TLA measurements (usually called as Leaf Area Duration/LAD) (Fakorede and Mock, 1980; Kuchay and Zargar, 2016) used Leaf Area Meter (LAM), then the sample was put in oven for 72 hours at 80°C until the weight became constant to obtain dry weight leaf.

Specific Leaf Area (SLA). SLA was a comparison between the leaf area and leaf weight containing leaf thickness information that could reflect the photosynthetic organelles unit (closely related to the rate of photosynthesis), where there was a positive relationship between leaf thickness with the number of stomata and chlorophyll content. On the contrary, there was a negative relationship between SLA and photosynthesis rate (Sitompul and Guritno, 1995; Sitompul, 2016).

SLA was calculated by using the formula below (Hunt et al., 2002; Shipley, 2006; Ahmadi et al., 2014; Rana and Rana, 2014; Sitompul, 2016; Li et al., 2016):

$$SLA = \left(\frac{LA}{LW} \right)$$

Where SLA = specific leaf area, LA = leaf area (cm²), and LW = leaf dry weight (g).

Leaf Area Index (LAI). LAI was closely related to a number of physiological processes such as photosynthesis, transpiration and evapotranspiration (productivity (Gholz, 1982), and the rate of energy exchange between crops and the atmosphere (Gholz et al., 1991 ; Botkin, 1986 in Nel and Wessman, 1993), as it affected the capture of photons and assimilate partitions for the growth and formation of crop yields (Addai and Alimiyawo, 2015).

LAI was calculated by using the formula below (Nel and Wessman, 1993; Sitompul and Guritno, 1995; Addo-Quaye, Darkwa, and Ocloo, 2011; Ramazanzadeh and Asgharipour, 2011; Lukeba et al., 2013; Rana and Rana, 2014; Addai and Alimiyawo , 2015; Sitompul, 2016; Li et al., 2016):

$$LAI = \left(\frac{LA}{GA} \right)$$

Where LAI = Leaf Area Index, LA = leaf area (cm²), and GA = land area covered by leaf or crop spacing (cm²).

Crop Growth Rate (CGR). CGR was a growth index that described the increase of biomass per time unit per (initial) capital unit of the crop. CGR was calculated by the following equation (Watson, 1952; Fakorede and Mock, 1980; Karimi and Siddique, 1991; Sitompul and Guritno, 1995; Ramazanzadeh and Asgharipour, 2011; Addo-Quaye, Darkwa, and Ocloo, 2011; Rahnama, 2006 in Ahmadi et al., 2014; Alikhani, Etemadi, and Ajirlo, 2012; Gul et al., 2013; Rana and Rana; 2014; Sitompul, 2016; Li et al., 2016):

$$CGR = \left(\frac{dW}{dt} \right) = (W_2 - W_1) / GA(t_2 - t_1)$$

Where CGR = crop growth rate (g m⁻² day⁻¹), W₁ = biomass dry weight at T₁ (g), W₂ = biomass dry weight at T₂ (g), GA or SA = ground area or soil area which was occupied by the sample crop, T₁ = crop age at observation of T₁ (day), and T₂ = crop age at observation of T₂ (day).

Net Assimilation Rate (NAR). NAR represented the dry weight addition per unit of leaf area (physiological index) per time unit (crop age), where the total dry weight (W) was not constant and had a linear relationship with the leaf area, calculated according to the following equation (Buttery, 1969; Beadle, 1987 Hunt et al., 2002; Shipley, 2006; Addo-Quaye et al., 2011; Ahmadi et al., 2014; Rana and Rana; 2014; Sitompul, 2016; Li et al., 2016; Kuchay and Zargar, 2016):

$$NAR = \frac{(W_2 - W_1)(\ln LA_2 - \ln LA_1)}{(LA_2 - LA_1)(T_2 - T_1)}$$

Where NAR = leaf unit price when total dry weight of crop had a linear relationship with leaf area, W_1 = biomass dry weight at T_1 (mg), W_2 = biomass dry weight at T_2 (mg), \ln = epixilon-based natural logarithm ($e = 2.718$), LA_1 = leaf area at T_1 (cm^2), LA_2 = leaf area at T_2 (cm^2), T_1 = crop age at observation of T_1 (day), and T_2 = crop age at observation of T_2 (day).

RESULTS AND DISCUSSION

Total Leaf Area. Varieties and crop spacing gave significant influence to TLA at 75 and 100 HST (Figure 1), with the highest TLA value at 75 HST was found in v_{5j_1} and the lowest was found at v_{1j_1} , with the respective values of 6,460.3 and 3,386.4 cm^2 . On the other hand, at 100 HST, the highest value was at v_{5j_1} and the lowest was at v_{3j_3} with successive values of 7,309.1 and 3,889.8 cm^2 . While at 25 and 50 HST, the influence of interaction and the main factor was not significant. The closer the crop spacing, the TLA would decrease because the leaves shaded each other so that the lower leaves would lack of light. Therefore, the growth was not normal. TLA differences between varieties were determined by the interaction between varieties and environmental factors in which the crop grew and developed (Saber and Siti Aishah, 2013). However, there was a tendency that varieties with longer lifespan would have larger TLA values and superior varieties would have larger TLA values than local varieties (Lukeba et al., 2013) because they had more number of leaves and had longer leaf size where there was a linear relationship between leaf number, leaf length and leaf area (Parmar and Chandra, 2002).

Specific Leaf Area. Varieties and crop spacing had significant effect on SLA at 75 and 100 HST (Fig. 2). On the other hand, the effect of interaction and the main factor was not significant at 25 and 50 HST. However, there was a tendency that the superior varieties had a larger SLA values. This was thought to be due to superior leaf varieties which had better leaf morphology (thighter and thicker) compared with local varieties (Poorter and Nagel, 2000). The crop spacing that gave a better SLA value was 70 cm x 15 cm, although it did not significantly different with other crop spacing. Lafarge and Hammer (2002) reported that there was no significant difference between the various treatments of crop density to SLA.

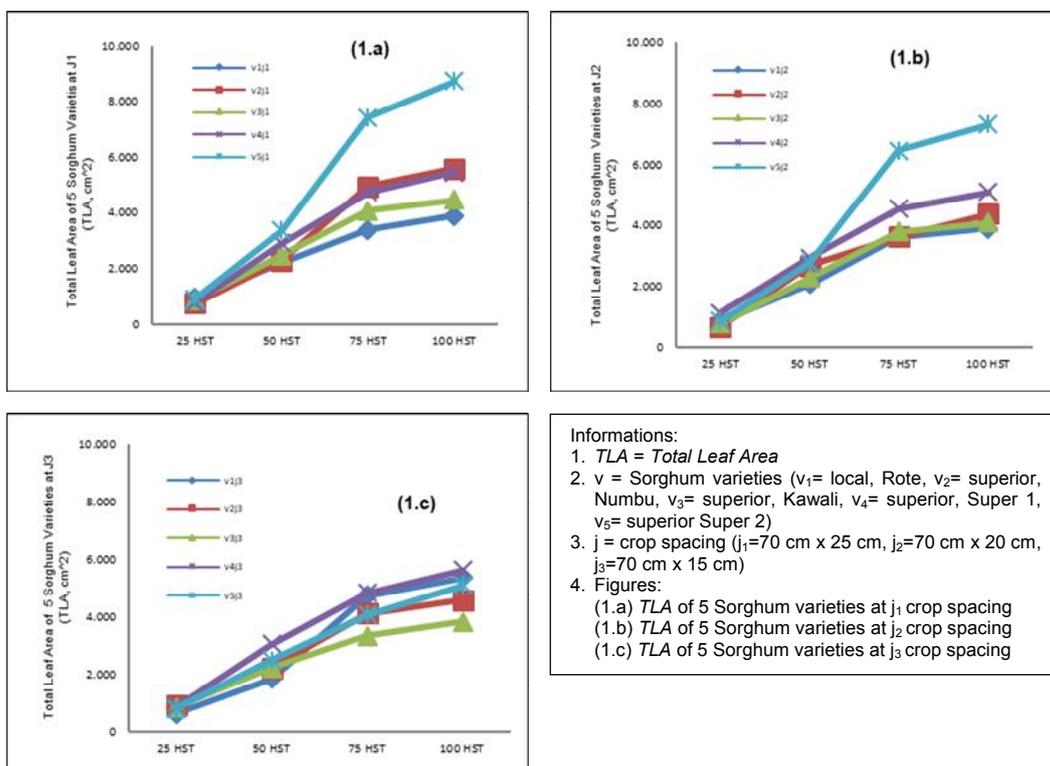


Figure 1 – The Effect of Varieties (v) and Crop Spacing (j) on Total Leaf Area (TLA, cm^2) of Sorghum at Age of 25, 50, 75, and 100 HST for Five Varieties at Three Crop Spacings

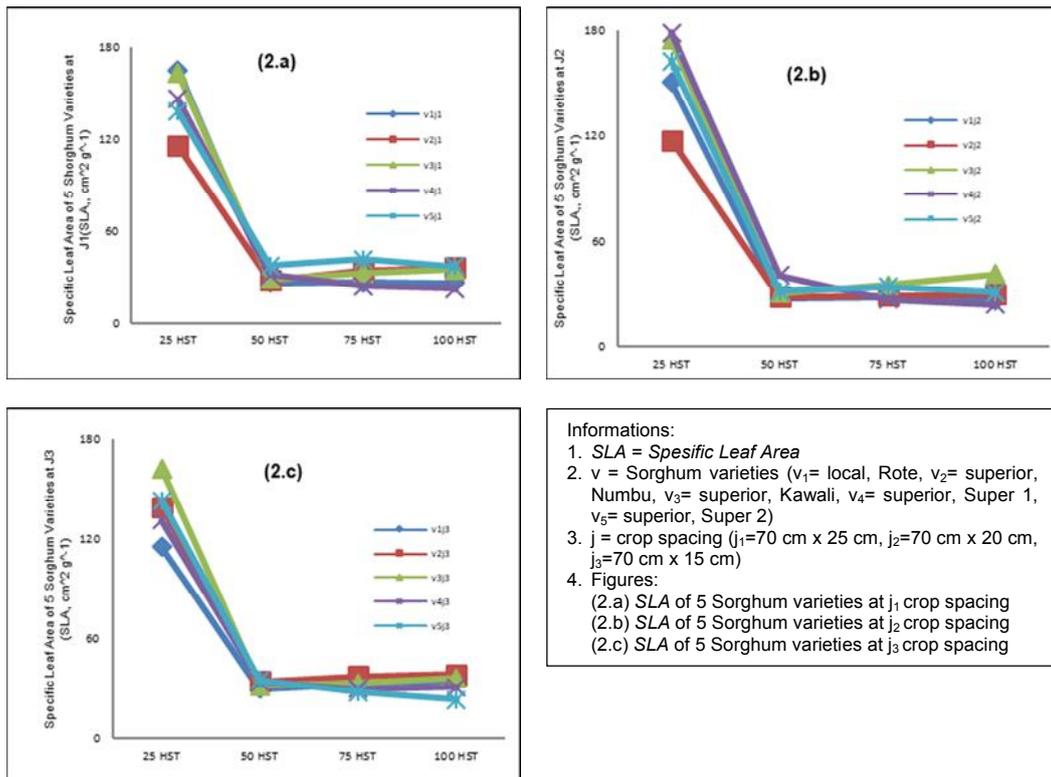


Figure 2 – The Effect of Varieties (*v*) and Crop Spacing (*j*) on Specific Leaf Area (*SLA*, $\text{cm}^2 \text{g}^{-1}$) of Sorghum at Age of 25, 50, 75, and 100 HST for Five Varieties at Three Crop Spacings

At 75 HST, the highest *SLA* value was at v_5j_1 and the lowest was at v_4j_1 , where the results were 41.8 and 26.7 $\text{cm}^2 \text{g}^{-1}$, respectively. While at 100 HST, the highest value was at v_2j_3 and the lowest was at v_1j_2 , with successive values of 38.9 and 22.4 $\text{cm}^2 \text{g}^{-1}$.

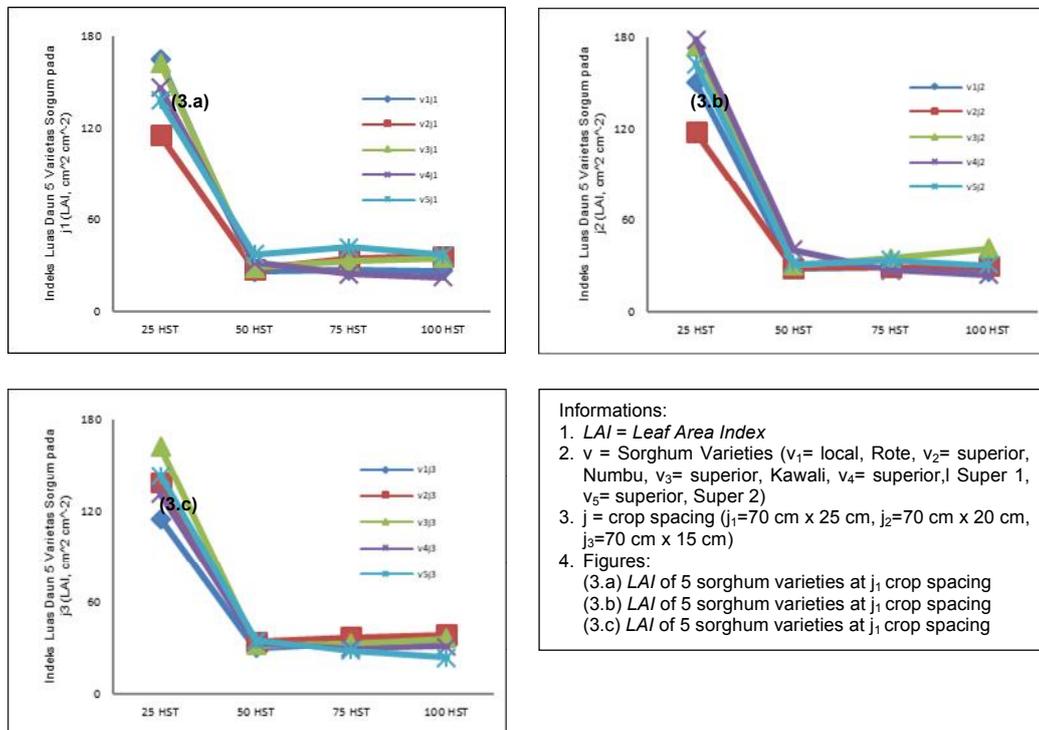


Figure 3 – The Effect of Varieties (*v*) and Crop Spacing (*j*) on Leaf Area Index (*LAI*) of Sorghum at Age of 25, 50, 75, and 100 HST for Five Varieties at Three Crop Spacings

SLA appeared high at the beginning, and then it began to decrease sharply in the active vegetative phase and decreased slowly in generative and mature physiological phases because SLA was determined by the interaction between light and nutrient content of the crop (Meziane and Shipley, 1999). SLA was positively correlated with light and nutrient content, therefore, in older and denser crops; they had lower ability to catch light due to lower nitrogen content (Lee, Goudriaan and Challa, 2003; Tei, Scaife and Aikman, 1996; Kuchay and Zargar, 2016). However, there was an inverse relationship between radiation quanta and biomass production where SLA would decrease when the total dry weight of the crop was higher as the age of the crop increased. It suggested that light quanta was more instrumental in driving properties activity in crops (crop metabolism and genetic) compared to the crop biomass production (Sitompul, 2016).

Leaf Area Index. Varieties and crop spacing had a significant effect on LAI at 75 and 100 HST (Figure 3), whereas at 25 and 50 HST, only crop spacing had a significant effect. However, there was a tendency that only superior varieties with longer lifespan would have larger LAI values. It was in line with the opinion of Bueno and Atkins (1982) that LAI would increase in line with the age of the crop. The crop spacing that gave a better LAI value was 70 cm x 15 cm. At 75 HST, the highest LAI value was at v_5j_2 and the lowest was at v_1j_1 , where the results were 4.61 and 1.9, respectively. While at 100 HST, the highest value was at v_5j_2 and the lowest value was at v_1j_1 , where the results were 5.22 and 22.3.

In general, there was a similar tendency between TLA and LAI parameters. At both ages, there was a similar tendency in which the highest LAI values were at j_1 (70 cm x 25 cm) and j_2 crop spacing (70 cm x 20 cm) for Super 2 varieties, while Super 1 was at j_3 crop spacing (70 cm x 15 cm). The high value of LAI on Super 2 varieties was in line with relatively high crop morphology with longer and wider leaf size when compared to the other two superior varieties (Numbu and Kawali). The size of Rote's (local varieties) leaf actually had a length that was almost the same as the Super 2 varieties, but it was narrower, which resulted in lower LAI value.

At the age of 25 and 50 HST, only crop spacing affected the LAI, where the highest LAI value was at the crop spacing of 70 cm x 15 cm because the crops tended to be dense, causing intercurrent covering.

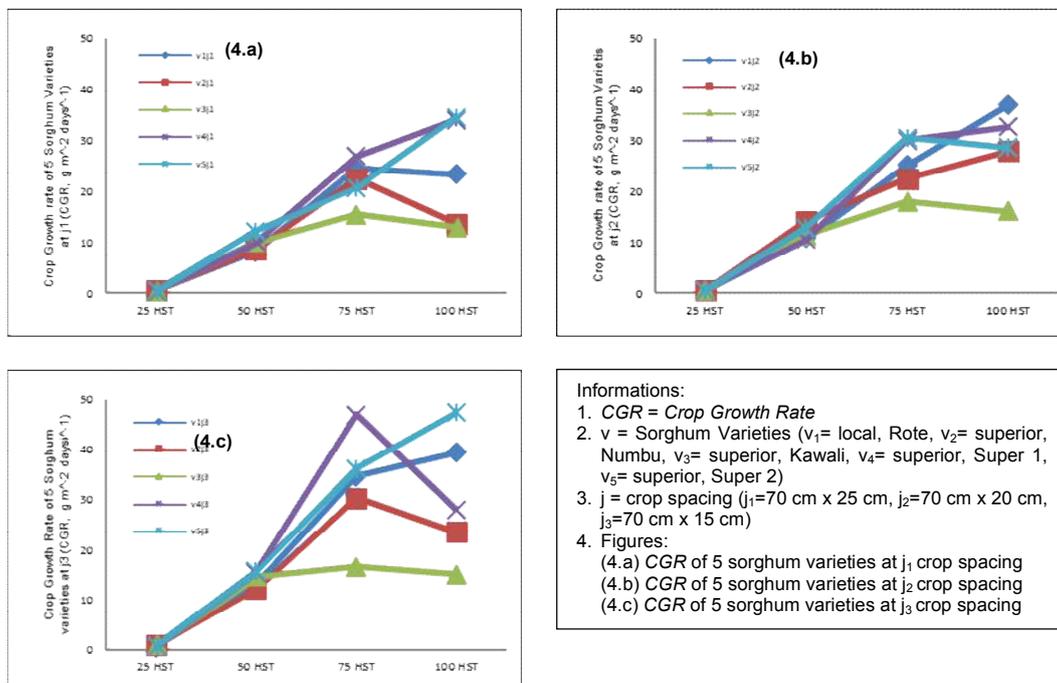


Figure 4. The Effect of Varieties (v) and Crop Spacing (j) on Crop Growth Rate (CGR, $g\ m^{-2}\ day^{-1}$) of Sorghum at Age 25, 50, 75, and 100 HST for Five Varieties at Three Crop Spacings

Thus, the closer a crop was, the LAI value tended to increase until it reached the optimum value at the time of maximum extinction coefficient (k) (Tei et al., 1996; Alikhani et al., 2012) because LAI was strongly influenced by the canopy structure which consisted of position, size and shape of the vegetative element (Ross, 1981) and the sun angle (Nel and Wessman, 1993). In addition, the PAR diffusion subtraction was able to increase the value of LAI (Nel and Wessman, 1993).

Crop Growth Rate. Varieties had significant effect on CGR at age of 75 and 100 HST, while crop spacing had significant effect on CGR at age of 50 and 75 HST (Figure 4). The crop spacing that gave a better NAR value was 70 cm x 25 cm. At 75 HST, the highest CGR value was at v_{4j_3} and the lowest was at v_{3j_1} , where the results were 47.009 and 15.472 $\text{mg cm}^{-2} \text{ day}^{-1}$, respectively. At 100 HST, the highest CGR value was at v_{1j_3} and the lowest was at v_{3j_1} with successive values of 39.555 and 12.980 $\text{mg cm}^{-2} \text{ day}^{-1}$. At the age of 25 HST, all treatments were not significant. However, there was an interesting tendency that the closer the crop spacing, then the more the CGR value increased. In addition, long-lived superior varieties were found to have higher CGR compared with shorter-lived superior varieties and local varieties (Rote).

This was in line with what Ramazanzadeh and Asgharipour (2011) reported that CGR tended to be low on initial growth due to imperfect land cover resulting in low light interception due to a lot of passing light. However, as the leaf area increased and the less light passed through the lower canopy layer, the CGR value increased rapidly and reached optimum at flowering/efflorescence stage. The same opinion was expressed by Addo-Quaye and Ocloo (2011), who stated that CGR had a linear relationship with LAI, where the higher perceived light would result in higher LAI and CGR value, and vice versa.

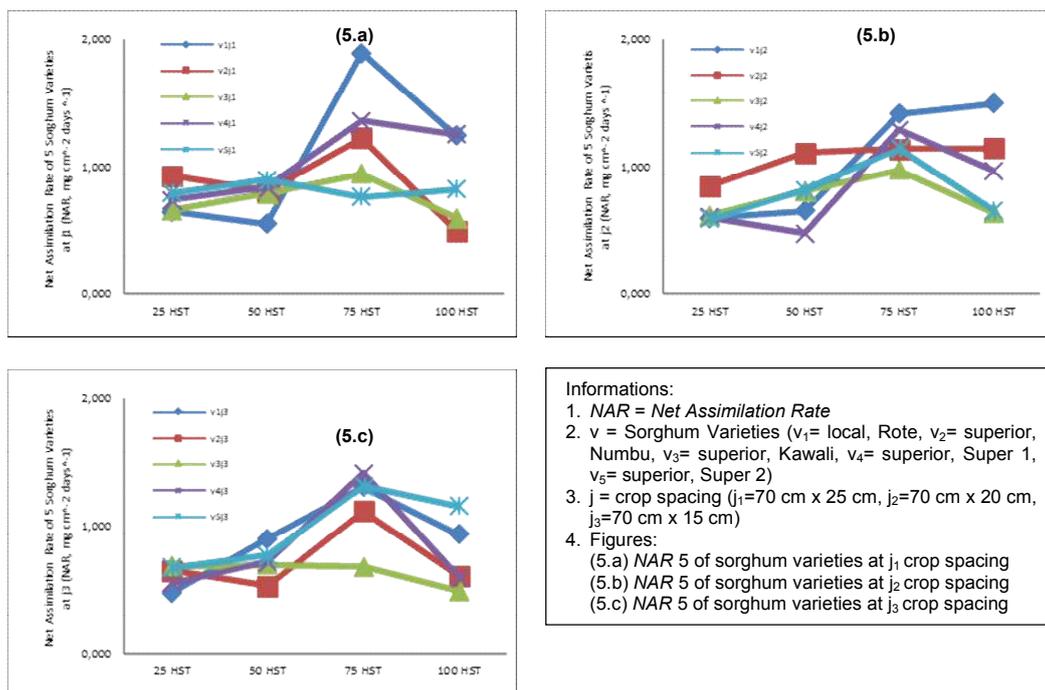


Figure 5 – The Effect of Varieties (v) and Crop Spacing (j) on Net Assimilation Rate (NAR, $\text{mg cm}^{-2} \text{ day}^{-1}$) of Sorghum at Age of 25, 50, 75, and 100 HST for Five Varieties at Three Crop Spacings

Net Assimilation Rate. Varieties and spacing gave a significant effect on NAR only at 50 HST (Figure 5), while at the other three observations had no significant effect, but there was a tendency, where NAR value was low at the beginning, then it peaked at 75 HST and then decreased at 100 HST. The crop spacing that gave a better NAR value was 70 cm x 25 cm. At 50 HST, the highest NAR value was at v_{1j_3} and the lowest was at v_{4j_2} with successive

values of 0.903 and 0.479 mg cm⁻² day⁻¹. Increased NAR values between 50 and 75 HST indicated that crops were at a high rate of photosynthesis (Parmar and Chandra, 2002).

While the tendency of decreasing NAR values at 100 HST showed that crops had shifted from vegetative to generative phases (had entered physiological maturity) (Addo-Quaye and Ocloo, 2011) and most of them had aged so that the rate of photosynthesis as well as the nitrogen concentrations contained in low leaves experienced a decrease (Li et al., 2016). In addition, NAR was inconsistent with time (Enyi, 1977, Gardner, Pearce, and Mitchell, 1991) and was influenced by LAI. Therefore, NAR would decrease as the crop spacing got closer and leaves began shading each other (when LAI reached optimum), contradicted with NAR and LAI (Buttery, 1969; Machado et al., 2002; Kuchay and Zargar, 2016).

CONCLUSION

A research aimed at determining morphology, yield, and photosynthesis partition of sorghum varieties at different crop spacing had been done at Agro Techno Park of University of Brawijaya, Jatikerto Village, Kromengan Subdistrict, Malang Regency, East Java, Indonesia. The study used a two-factor separate plot design, where the main plot was varieties and the sub plot was crop spacing. Observations on growth parameters were performed for 4 times (25, 50, 75, and 100 HST) which consisted of Total Leaf Area (TLA), Specific Leaf Area (SLA), Leaf Area Index (LAI), Crop Growth Rate (CGR), and Net Assimilation Rate (NAR). The results showed that at 75 HST, the highest TLA value was at v_{5j1} and the lowest was at v_{1j1}, where the results were 6,460.3 and 3,386.4 cm². While at 100 HST, the highest TLA was at v_{5j1} and the lowest was at v_{3j3}, with successive values of 7,309.1 and 3,889.8 cm². For SLA parameter, there was a tendency that superior varieties had greater value. At 75 HST, the highest SLA value was at v_{5j1} and the lowest was at v_{4j1}, with the results of 41.8 and 26.7 cm² g⁻¹. While at 100 HST, the highest SLA was at v_{2j3} and the lowest was at v_{1j2}, with successive values of 38.9 and 22.4 cm² g⁻¹. LAI at 75 HST indicated that the highest value was at v_{5j2} and the lowest was at v_{1j1}, with the results of 4.61 and 1.94. While at 100 HST, the highest LAI was at v_{5j2} and the lowest was at v_{1j1} with successive values of 5.22 and 22.3. At 75 HST, the highest CGR value was at v_{4j3} and the lowest was at v_{3j1}, with the results of 47.009 and 15.472 mg cm⁻² day⁻¹, respectively. At 100 HST, The highest CGR was at v_{1j3} and the lowest was at v_{3j1} with successive values of 39.555 and 12.980 mg cm⁻² day⁻¹. Superior varieties had a higher value than local varieties for CGR parameter. NAR tended to be low at the beginning and then it peaked at 75 HST and decreased at 100 HST. At 50 HST, the highest NAR value was at v_{1j3} and the lowest was at v_{4j2}, with the results of 0.903 and 0.479 mg cm⁻² day⁻¹, respectively. The crop spacing of 70 cm x 25 cm proved to provide better value for most parameters, except for CGR and SLA, which the crop spacing was 70 cm x 15 cm.

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**THE EFFECT OF IMMERSION LENGTH IN PAPAYA LEAF SOLUTION
(CARICA PAPAYA L.) TOWARD FERTILIZATION AND HATCHING OF IRIDESCENT
SHARKS (PANGASIANODON HYPOPHthalmus S.)**

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ABSTRACT

Iridescent sharks is one kind of freshwater fish that is quite economical. However, the availability of the fish eggs is rather problematic due to the hatcheries, i.e. the adhesive nature of the eggs. Papaya leaves contain papain enzymes that can reduce the adhesive nature of eggs. The purpose of this study was to determine the effect of papaya leaf solution with different immersion period on the successful hatching of the iridescent sharks (*P. hypophthalmus*). This study was conducted experimentally using a complete randomized design. There were five treatments, i.e. (K) 0 seconds, (A) 30 seconds, (B) 60 seconds, (C) 90 seconds, (D) 120 seconds, and (E) 150 seconds with three-time repetition. The result of this study shows that the best hatching (80.31%) happens to the eggs immersed in papaya leaf solution for 60 seconds (treatment B).

KEY WORDS

Carica papaya, leaves, hatching, eggs, Pangasianodon hypophthalmus.

Iridescent sharks (*Pangasianodon hypophthalmus* Sauvage) is one kind of freshwater fish that is quite economical. However, in Indonesia, this type of fish cannot be naturally spawned, yet artificial spawning has been done by practitioners and academics. The main factors that influence the spawning success are egg quality and sperm quality (Sutrisna, 2002). In order to meet the increasing demand of iridescent sharks, parent management must be done. Parent management aims to get quality seeds in a large number (Susanti and Mayudin, 2012); thus, to get good seeds, improving the egg quality is necessary (Yulfiperius *et al.*, 2003).

Partosuwiryo and Irfan (2011) state that the eggs of iridescent sharks have adhesive properties. Therefore, some eggs may fail to hatch because the eggs are rather difficult to separate. This becomes one of the obstacles in the hatching process because the quality of water becomes disturbed when many eggs fail to hatch. Thus, it is necessary to make efforts to overcome the adhesive nature of the eggs. One of the efforts is by using certain solution to remove the adhesive nature of the eggs (Slembrouck *et al.*, 2005). Young papaya leaves produce much white sap that contains protein-breaking enzymes or proteolytic enzyme called papain. The protein-breaking enzymes will help to solve the problem, i.e. by immersing the eggs in the papaya leaf solution (Rahman, 2008).

This supports the statement of Slembrouck *et al.* (2005), that the adhesive eggs will stick to each other or on a substrate through the sticky mucous membrane and covers the entire surface. The adhesive nature of eggs inhibit the entry of oxygen that can inhibit the development of eggs and will affect the hatchability. The adhesive nature can be reduced by using natural ingredients such as papaya leaves. Papaya leaves contain enzymes, called papain, that can break down proteins or proteolytics. Papain has been proven capable of breaking down glucoprotein, which is part of the mucus layer of the eggs (Mustofa, 2009).

The purpose of this study was to determine the effect of different immersion periods in papaya leaf solution toward the success of fertilization and hatching of iridescent sharks (*P.*

hypophthalmus). The study is expected to provide information about the effective immersion periods in papaya leaf solution to reduce the adhesive properties of eggs as to improve fertilization and hatching of iridescent sharks. The information will be beneficial for cultivation technology, especially for breeding business of iridescent sharks (*P. hypophthalmus*).

METHODS OF RESEARCH

The research was conducted at the Fish Research and Breeding Center of Sukamandi, Subang, West Java, from September to November 2013. The eggs of iridescent sharks were obtained from artificial spawning through HCG and OvaPrime hormone muting to stimulate gonad maturation in male and female parent fish. Stripping was done on the female whose gonad was mature enough. Male parent stripping was done to collect the sperms and female parent tripping was done to collect the eggs. Sperms and eggs are then collected for fertilization. After the fertilization, the eggs were immersed in papaya leaf solution; each treatment was given 15 ppt dosage and the following treatment of immersion: (K) 0 second, (A) 30 second, (B) 60 second, (C) 90 second, (D) 120 seconds, and (E) 150 seconds. Furthermore, treated eggs were washed with distilled water to remove the rest of papaya leaf solution. Each treatment was spread on a tea strainer \pm 160 eggs and the treatment was repeated 3 times.

Each tea strainer contained \pm 160 eggs, and then transferred into a hatching incubation tub that had been prepared with a water temperature of 28°C. Next, the stage of embryo development was observed. The percentage of fertilization and hatching rate was recorded. The rate of hatching was determined by counting the number of eggs that successfully hatched after 24 hours of incubation.

Data were analyzed using Completely Randomized Design. The effect of immersion time in papaya leaf solution (*carica papaya l.*) toward the fertilization and hatching of the iridescent sharks (*Pangasianodon hypophthalmus s.*) was examined using a diversity or F-test. If the F value is significantly different, then the smallest real difference (SRD) is done to determine the treatment that gives the best response as a significance rate of 5% and 1%. To know the correlation between the treatment and the influenced results, a regression analysis is used—this analysis gives information about the influence of treatments.

RESULTS OF STUDY

Fertilization Rate. The length of immersion of the eggs of iridescent sharks (*Pangasianodon hypophthalmus*) in papaya leaf solution shows significantly different mean results on the fertilization rate. The data of the fertilization rate mean can be seen in Table 1.

Based on the mean, the length of immersion in papaya leaf solution gave very significant different effect ($P < 0,01$) to the fertilization rate of the eggs. Furthermore, the smallest real difference (SRD) was tested to see the different effect between treatments. The result of SRD test showed that D treatment (96.42%), E treatment (95.28%), and K (94.75%, immersion for 0 second) did not give significantly different effect on the fertilization rate. Treatment A (99.02%) and C (98.41%) had a significant effect on treatment E and K, whereas treatment B (100%) gave a significant different effect compared to all other treatments. To know the relationship pattern between the immersion length and the success of the fertilization, an orthogonal polynomial test was done. The test shows a relationship graph between the two variables in a quadratic equation as $Y = -0.0008 x^2 + 0.110x + 95.475$ with R^2 of 0.8184. This indicates that the longer the immersion in papaya leaf solution, the lower the percentage of the fertilization rate. However, it can be seen that the optimal immersion time is for treatment B (for 60 seconds) as the percentage of fertilization rate is 100%. Figure 1 presents the result of the orthogonal polynomial test.

Table 1 – The mean of the fertilization and hatching rate of the eggs of the iridescent sharks in different immersion lengths in papaya leaf solution

| Treatment | Variable | |
|---------------------------|-------------------------|-------------------------|
| | Fertilization Rate | Hatching Rate |
| K (immersion 0 seconds) | 94.7±0.86 ^a | 49.8±0.49 ^a |
| A (immersion 30 seconds) | 99±0.93 ^a | 79.1±1 ^a |
| B (immersion 60 seconds) | 100±0 ^a | 84.2±1.61 ^b |
| C (immersion 90 seconds) | 98.4±1.51 ^{ab} | 73.3±6.48 ^{bc} |
| D (immersion 120 seconds) | 96.4±1.28 ^{ab} | 66.5±2.44 ^{cd} |
| E (immersion 150 seconds) | 95.3±2.42 ^b | 55.13 ^d |

Different superscripts shows a significant difference ($P < 0.01$).

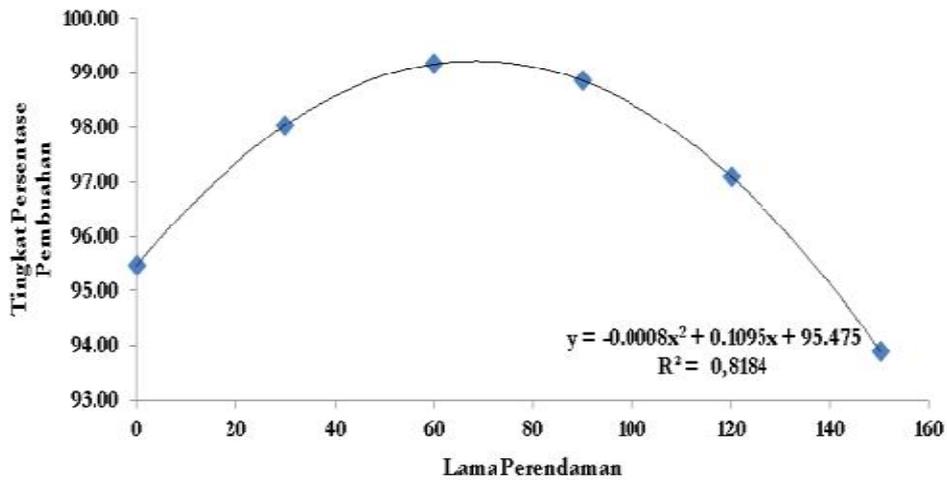


Figure 1 – The relationship of immersion length in papaya leaf solution with the fertilization rate (%) of the eggs of iridescent sharks (*P. hypophthalmus*)

Hatching Rate. The length of immersion of the eggs of iridescent sharks (*Pangasianodon hypophthalmus*) in papaya leaf solution shows significantly different mean results on the hatching rate. The data of the hatching rate mean can be seen in Table 1.

Based on the mean, the length of immersion in papaya leaf solution gave very significant different effect ($P < 0,01$) to the hatching rate of the eggs. Furthermore, the smallest real difference (SRD) was tested to see the different effect between treatments. The result of SRD test showed that E treatment (55%) did not give significantly different effect compared to K treatment (49.8%).

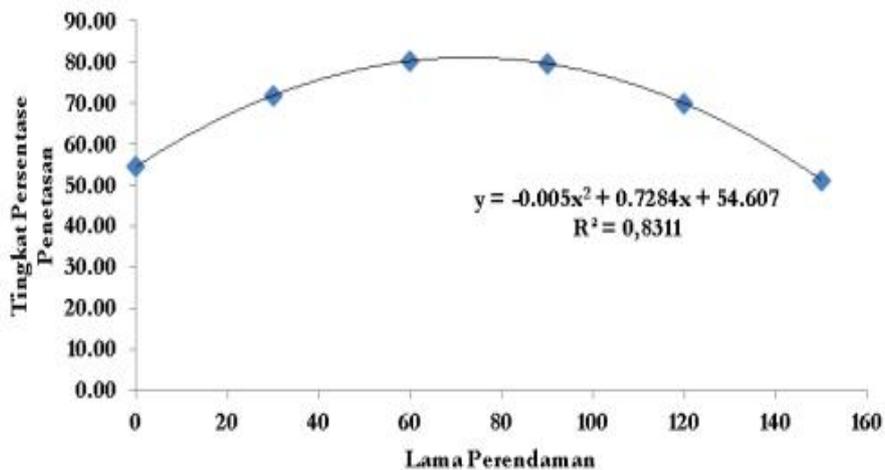


Figure 2 – The relationship of immersion length in papaya leaf solution with the hatching rate (%) of the eggs of iridescent sharks (*P. hypophthalmus*)

Treatment C (73.4%) was significantly different from treatment D (66.5%) and from treatment A (79.1%). Treatment B (84.2%) gave a significant different effect compared to all other treatments. To know the relationship pattern between the immersion length and the success of the hatching, an orthogonal polynomial test was done. The test shows a relationship graph between the two variables in a quadratic equation as $Y = -0.005x^2 + 0.7284x + 54.607$ with R^2 of 0.8311. This indicates that the longer the immersion in papaya leaf solution, the lower the percentage of the hatching rate. However, it can be seen that the optimal immersion time is for treatment B (for 60 seconds) as the percentage of hatching rate is 84.2%. Figure 2 presents the result of the orthogonal polynomial test.

DISCUSSION OF RESULTS

The results show that immersion in the papaya leaf solution significantly affects the percentage of fertilization and hatching rate of the iridescent sharks. This is shown in Figure 1 and 2. The percentage of fertilization and hatching rate has increased due to the immersion, indicating that the papaya leaf solution has the ability to reduce adhesive properties of the eggs of iridescent sharks, meaning that there is no egg death due to the lack of oxygen. The statement is supported by Woynorovich and Horvath (1980) suggesting that oxygen deprivation is one of the leading causes of egg and embryonic deaths. Yustina *et al.* (2003) adds the success of the fertilization rate is seen from the nature and quality of the eggs. An unfavorable egg condition will interfere with the process of fertilization and eggs can also be damaged.

Papaya leaf solution containing a proteolytic enzyme known as papain can reduce adhesion of eggs of the iridescent sharks. Lukitasari (2004) in Setiaji (2009) states that papaya leaves contain such white sap, a protein-breaking enzyme or proteolytic enzyme, called papain. Mustofa (2009) adds that the presence of the proteolytic enzyme activity, i.e. papain, breaks down the glucoprotein, which is part of the mucus layer of the eggs. The broken down mucus layer reduces the adhesiveness of the eggs - the nature that causes the eggs to stick to other objects such as fungus and spores. In addition, the more egg pores open, the more oxygen they will get that will finally help them to develop well. This process marks an increase in the rate of fertilization of the eggs of iridescent sharks. However, Figure 1 and 2 shows a decrease in the percentage of hatching due to the long immersion time in papaya leaf solution - this too long immersion will damage the eggs as the mucus layer eroded by the proteolytic enzyme.

CONCLUSION

The use of papaya leaf (*C. papaya*) solution brings a significant effect on the fertilization and hatching of the eggs of iridescent sharks (*P. hypophthalmus*). The best immersion time in papaya leaf solution is for treatment B (60 seconds) as it brings a percentage of fertilization rate at 99.17% and hatching rate at 80.31%.

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ABALONE (HALIOTIS SQUAMATA) ANESTHESIA WITH ETHANOL ON GRADING PROCESS

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ABSTRACT

An abalone is a group of marine molluscs that have high economic value. To increase abalone production, such cultivation needs to be done considering that abalone production still dominating. However, there are still obstacles in the cultivation which is the high mortality rates on the grading process of juvenile abalone. The fatality occurs due to the traditional grading process by gouging abalone to separate abalone that is attached to the substrate. The use of ethanol as an anesthetic material is expected to minimize the mortality and increase the survival rate of abalone. In this study, the use of ethanol by 30 ml/L as an anesthetic material can separate the abalone from its substrate 447.67 seconds faster than the dose of 10 ml/L. However, the 30 ml/L dose also showed the lowest survival rate of 86.67%. The best recovery test is at 10 ml/L with the fastest recovery time of 143.33 seconds which has a high survival rate of 98.33%. The success of anesthesia by using ethanol in this study can also be done in the grading process of abalone seed and can minimize death due to the traditional grading process.

Key words

Abalone, anesthesia, ethanol, *Haliotis squamata*.

Abalone or *Kerang Mata Tujuh* is one of the snail species that can be found in Indonesia and included in the group of marine molluscs (Litaay) [1]. The development of abalone cultivation continues to be improved due to the high selling price in the domestic market which reaches IDR 300.000/kg [2]. Besides the United States and EU countries, there are several abalone main markets in Asia such as China, Hong Kong, Korea, Japan, and Singapore. However, the majority of world abalone production is still dominated by natural catches. In 2002, it is estimated that the world abalone production reaches 22.600 tons of which only about 8.600 tons are produced from cultivation activities [3].

As a newly developed species, the efforts to increase abalone production with cultivation activities still have technical and technological obstacles. One of which is the high mortality rates during the grading process. This occurs when the juveniles are removed from the substrate to the enlargement area. The separation between the abalone and the substrate is carried out by gouging which can cause injury and death to the abalone [2].

Therefore, an anesthesia is done to minimize the injury thus it could have high life opportunity. An anesthesia is given as a tranquilizer so that it can cause loss of movement, balance, awareness, and consciousness [4].

MATERIALS AND METHODS OF RESEARCH

The materials used were abalone seeds (1.5 - 2.5 cm), ethanol, basket, 10-liter fiber tub, spatula, stopwatch, and ruler. This research was conducted in April to May 2014 in Musi Village, Gerokgak District, Buleleng Regency, Bali.

The sampling of 1.5 - 2.5 cm abalone seeds was performed by choosing the seed which has good quality. Then, the sample was placed in a basket that was used as a sticking

substrate. The characteristics of a good abalone seed are sensitive to external response, strongly stick to the substrate if touched, shrunk and harden if soaked on fresh water, will quickly move if returned to the sea, non-broken shell or misshapen, and no injury to the body or abalone meat.

The anesthesia medium used was ethanol on each treatment: A (10 ml/L), B (20 ml/L) and C (30 ml/L). Whereas, in the control, the abalone separation from the substrate was done by gouging.

Each dose of ethanol was dissolved in seawater in a fiber tub and placed in a basket that has been plastered with abalone. After that, the duration of the abalone to detach from the basket was calculated with a stopwatch. Once it detached from the basket, the abalone was immediately rinsed by inserting the basket into a fiber tub containing seawater without ethanol. Then, the duration until the abalone stick back to the basket was calculated.

The duration of abalone separation from the substrate begins when the basket was placed into the tub containing anesthetic material. The calculation was done by using this following formula:

$$Lb = W_t - W_o$$

Where: Lb = the latent duration of the anesthetic; W_t = the duration of the unconsciousness; W_o = the duration of the treatment.

The position of the abalone that is detached from its substrate will be reversed so that the calculation of the duration of the recovery began when the abalone turned the body to its original position and re-attached to the substrate.

$$Wp = t_1 - t_o$$

Where: Wp = the duration of unconsciousness; W_t = the start of unconsciousness; W_o = the duration of consciousness.

The post-anesthesia maintenance was done and the survival rate of the abalone was calculated with a formula as follows:

$$SR = \frac{N_t}{N_o} \times 100\%$$

Where: SR = survival rate (%); N_t = number of individuals who survive; N_o = the initial number of individual tested.

RESULTS OF STUDY

The Start of Unconsciousness:

Table 1 – The start of abalone unconsciousness

| Treatment | Duration (second) \pm SD |
|-----------|--------------------------------|
| A | 525 \pm 24.25 ^a |
| B | 112.33 \pm 8.74 ^b |
| C | 77.33 \pm 11.37 ^c |

Different superscripts showed a significant difference ($p < 0,01$).

The study shows the duration of the abalone which begins to be unconscious by using ethanol as an anesthetic material. The fastest time of abalone to separate from the substrate was at treatment C (ethanol 30 ml / L) with 77.33 seconds while the longest time was at treatment A (ethanol 10 ml / L) with 525 seconds. This shows that the higher the dose of ethanol, the faster the abalone to separate from the substrate. In the control treatment, the duration of the abalone to detach from the substrate was not count because it is done by gouging. The start of abalone unconsciousness can be seen in Table 1.

Recovery Duration:

Table 2 – Duration of abalone recovery

| Treatment | Duration (second) \pm SD |
|-----------|---------------------------------|
| Control | 125.33 \pm 14.19 ^a |
| A | 143.33 \pm 32.87 ^a |
| B | 210.67 \pm 18.72 ^b |
| C | 362.67 \pm 70.24 ^c |

Different superscripts showed a significant difference ($p < 0,01$).

The fastest duration of abalone recovery was in control treatment with 125.33 seconds while in the anesthesia treatment, the fastest recovery was in treatment A (ethanol 10 ml / L) with 143.33 seconds. The longest duration of abalone recovery was in the C treatment (ethanol 30 ml / L) with 362.67 seconds. This suggests that the higher the dose of ethanol as an anesthetic, the longer the duration of abalone recovery. The duration of abalone to become unconscious can be seen in Table 2 above.

Survival Rate:

Table 3 – The survival rate of the abalone post-anesthesia

| Treatment | Survival Rate (%) \pm SD |
|-----------|-------------------------------|
| A | 98.33 \pm 2.87 ^a |
| B | 95 \pm 5.00 ^a |
| C | 86.67 \pm 2.87 ^b |
| Control | 85 \pm 5.00 ^b |

Different superscripts showed a significant difference ($p < 0,01$).

The highest survival rate of the abalone was found in treatment A (10 ml / L ethanol) by 98.33% and the least survival rate was in control treatment by 85%. Meanwhile, in anesthesia treatment, the lowest survival rate was found in treatment C by 86.67%. This suggests that the higher the dose of the ethanol, the lower the abalone survival rate. The abalone post-anesthesia survival rate can be seen in Table 3.

DISCUSSION OF RESULTS

Increasing the concentration of ethanol as an anesthetic material can lead to accelerated unconsciousness time of an organism's seed because the process of anesthetic substance absorption by the blood becomes more quickly. The substance of anesthesia that has been absorbed into the blood vessels will be brought to the central nervous system of the brain and spinal cord (central nervous system or CNS). Anesthetic agents that have reached the central nervous system will block the dopamine postsynaptic receptors which also inhibit the release of dopamine and suppress the central nervous system that will cause sedation effects, muscle relaxation, as well as decrease the activities of organisms that are stimulated from the external which then lead to organisms fainting [5].

The recovery treatment after the giving of anesthesia is immersion which the organism is placed in clean water (free of anesthesia). Although recovery can be done by various mechanisms, it is advisable to transfer the organism to a new water-filled container so that the organism's metabolite can be excreted into water through gills and/or skin [6].

The death of abalone in post-anesthetic is suspected due to the water that is soluble with anesthetic material so that it resulted in a decrease in the respiration rate of the organism. The condition causes an anxious and makes the organism to always try come to the surface to get oxygen. A decrease in the respiration rate causes the loss of all sensors in the body as a result of the decrease in nerve function thus blocking action and conducting nerve impulses. Furthermore, it is also explained that anesthetic materials will disrupt the ionic balance in the brain of fish seed either directly or indirectly. This occurs because of the

decrease in the concentration of K^+ cations and the increase of Na^+ , Fe^{3+} , and Ca^{2+} cations. Then, this disruption will affect the work of motor neurons and respiratory system [5].

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THE DETERMINANTS OF THE DOMESTIC RICE PRODUCTION FOR THE NEED OF THE POPULATION OF BENGKULU PROVINCE, INDONESIA

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ABSTRACT

The objective of this study is to analyze the determinants of the domestic rice production to meet the consumption needs of the population of Bengkulu Province of Indonesia. The data used are monthly time series data of the period from 2010 to 2015. The analytical method used is multiple linear regression model. The results of the analysis show that the domestic rice production is affected by the rice area harvested, the rainfall, the rainy days, and the time which is a proxy of the technological change. The people and the government need to be on alert for the decline in the potential land for rice fields, the increased rainfall, and the decreasing rainy days that will affect the rice sufficiency in Bengkulu Province.

KEY WORDS

Production, consumption, rice, population, Indonesia.

Food is a basic human need that is the most fundamental and its fulfillment is a part of the human rights guaranteed in the Constitution of the Republic of Indonesia of the Year 1945 as a basic component for realizing quality human resources. Rice is the staple food of the greatest portion of the population of Indonesia. Other staple foods are maize, cassava and other tubers, sago, and wheat. Changing pattern of staple foods into rice and considering other foods inferior have caused rice to be the major staple food for most Indonesian people.

The status of rice as the main staple food makes it a national strategic commodity. The shortage of national rice stock and the rising of the rice prices can cause a disruption of economic stability and emergence of social and political turmoil. The national rice sufficiency to meet the current need of 258.7 million people must be recognized as a fundamental part of the food sovereignty and food self-sufficiency.

Food independence is measured with the ratio of the imports to domestic production (Suryana, 2008). The higher the imports, the more vulnerable the national food self-sufficiency. Therefore, the government should give the greater portion of attention to the domestic production rather than the imports.

The government continues reducing the imports and increasing the domestic rice production. These efforts have been successful in making Indonesia self-sufficient in rice in 2008 (Las, 2009). Furthermore, the government was trying to maintain Rice Self Sufficiency by issuing the Presidential Decree No. 5 of the Year 2011 that changed the rice surplus target of 5 million tonnes per year to 10 million tons per year. The government also issued Presidential Instruction No. 8 of 2011 in anticipation of production disruptions and rising prices of grain / rice caused by the extreme climatic conditions.

The problems encountered in meeting the need for rice from the domestic production are the high rate of population growth and percapita rice consumption which is higher than the national standard, so that the demand for rice is gradually becoming bigger and bigger. On the other hand, the acreage of the potential paddy fields is on the wane due to land conversion and the extreme climate which led to the reduced harvested area and the decrease of rice production. According to Irawan (2006) extreme climate causes the dry season to be longer resulting in drought and the rainy season to be longer causing flooding. Both drought and flooding adversely affect agricultural production, especially the short-lived crops like rice.

Both of these phenomena can lead to the instability of the rice availability and at a certain time a rice deficit will occur. According Sjarkowi and Noerdin (2015), to address the inadequacy of food (rice) due to the population growth (Malthusian trap) is to find a technological leap that can cause a rise in per capita consumption without the occurrence of boomerang in the form of food shortages for the next generation. The staple food of the population of Bengkulu Province is rice. The acreage of the rice fields in the Province of Bengkulu is on the wane and the number of population in the period of the last forty years has increased more than threefold. Therefore, the writer is interested in doing an analysis of the determinants of the domestic rice production to fulfill the consumption needs of the population of Bengkulu Province.

METHODS OF RESEARCH

Time and Location of the Study. This study was conducted in the period from November through December 2016 in the Province of Bengkulu. The reason for choosing Bengkulu Province as the site of the study is due to the contribution of the sub-sector of agriculture to the GRDP is still fairly high at 31% and rice is the staple food of the population of Bengkulu Province. Additionally, in the Province of Bengkulu there is one city that always experiences a deficit in rice, which is surrounded by 9 regencies which are in surplus of rice.

Types and Sources of Data. The data used in this study are monthly time series data of the period of 2010-2015. The variables used are the number of population, per capita consumption of rice, domestic rice production, harvested area, rainfall and rainy days.

Analytical Model. The production and rice consumption needs are analyzed with the descriptive qualitative method presented in tabular form. The amount of rice production is obtained by converting the domestic rice production after being deducted by the portion used for feed and that which is scattered. The grain which is used for feed and that which is scattered is respectively 0.44 percent and 5.40 percent of the total rice production (Provincial Food Security Agency of Bengkulu, 2015). The dry milled grain conversion rate into rice is 62.74 percent (The Central Bureau of Statistics and the Ministry of Agriculture, 2015). Thus, the formula of the domestic rice production is:

It means that every 100 tons of grain production will generate as much as 59.08 tons of rice. Of that rice production, some is used for feed and some other is scattered, respectively 0.17 percent and 2.5 (Provincial Food Security Agency of Bengkulu, 2015). Thus, the formula of rice available for consumption of the population at the level of retailers and at the level of the households is as follows:

It means that every 100 tons of grain production will produce rice available for consumption of the population at the level of retailers and at the level of households as much as 57.50 tons.

The total consumption of rice of the population of Bengkulu Province is obtained by multiplying the per capita consumption of rice by its population. The data of rice consumption is obtained from *PPH* compiled by the Provincial Food Security Agency of Bengkulu.

To disclose the factors that affect the rice production, the multiple linear regression analysis is done. The general regression equation used is:

The dependent variable (Y) which is incorporated into the model is the amount of rice (QPB) and the independent variables (X) are the rice harvested area (LP), acreage of crop failure (P), rainfall (C), rainy days (H), and time (T).

The method used is the Ordinary Least Squares method or OLS. The resulting equation must satisfy the classical assumption of normal distribution of data and free of autocorrelation, multicollinearity, and Heteroscedasticity (Greene, 1993).

To disclose whether or not the independent variables included in the model (X_i) in the aggregate have effect on the amount of rice production (Y) F-test was conducted. To disclose whether or not the independent variables included in the model (X_i) partially affected the total amount of the rice production (Y) t-test was conducted.

To measure the magnitude of the diversity of the dependent variable (Y) that can be explained by the independent variables (X) which are incorporated into the model or the

reliability of the model is calculated with the value of the coefficient of determination of *Rsquare* (R^2).

RESULTS AND DISCUSSION

Bengkulu Province consists of nine regencies and one municipality. The nine regencies are Bengkulu Selatan, Rejang Lebong, Bengkulu Utara, Kaur, Seluma, Mukomuko, Lebong, Kepahiang and Bengkulu Tengah. The City in Bengkulu Province which is also at the same time the provincial capital of Bengkulu Province. Of 1,992 hectares of area, there is only 92 thousand hectares of wetland (Central Bureau of Statistics of Bengkulu Province, 2016).

The agricultural sector plays a crucial role in the economy of Bengkulu Province. The role of the agricultural sector in the formation of the Gross Regional Domestic Product (GRDP) of the province reaches 30.66 percent. The agricultural sector provides employment and is the main livelihood of the population of Bengkulu Province where more than half (54.21 per cent) of the labor force employed in the agricultural sector (The Central Bureau of Statistics of Bengkulu Province, 2016). The agricultural sector is supported by its fertile soil and a climate that allows the cultivation to be done throughout the year. Based on the classification of climates of Schmidt and Ferguson, the type of climate of Bengkulu is classified into Type A.

The agricultural subsector of food crops has a dominant contribution compared to other agricultural subsectors. The largest food crop commodity is rice. The rice commodity consists of the wetland rice (93.46 percent) and the dryland rice (6.54 percent). After the rice, the second most commonly cultivated commodities are corn (The Central Bureau of Statistics of Bengkulu Province, 2016).

The rice production is intended to meet the needs of basic foodstuffs for the population of Bengkulu Province. The population of Bengkulu province is projected to increase from year to year. The results of the population census of Bengkulu Province in 2010 disclosed that the number of population of Bengkulu Province was 1,722,128 inhabitants. By 2015, the population of the Province of Bengkulu was projected to increase to 1,874,944 inhabitants (The Central Bureau of Statistics and the United Nations Population Fund, 2015).

The results of the calculation of the fulfillment of the consumption reveal that the availability of rice from the domestic rice production can meet the needs of the population of the Province of Bengkulu. This is consistent with the Map of Food Resilience and Food Vulnerability (Food Security Council, 2015) which states that Bengkulu Province is classified into the category of high surplus. These findings refute the statement Romdhon (2013) which states that Bengkulu Province experiences deficit in rice in which the domestic rice production meets only 30.39 percent of the needs of rice.

To disclose the factors that affect rice production in the Province of Bengkulu, the multiple linear regression analysis is performed. The dependent variable (Y) which is incorporated into the model is the amount of rice production (QPB) and the independent variables (X) are the rice harvested area (LP), the acreage of crop failure (P), the rainfall (C), the rainy days (H), and the time (t). The equation of the regression model used is:

Based on the results of data processing by using SPSS, an equation is obtained as follows:

It turns out that the regression obtained experiences a positive autocorrelation in which the value of Durbin-Watson (DW) is 1.436 below $d_{L_{0.05; 5; 72}} = 1.4732$. According to Hidayat (2017) an autocorrelation causes the sample variance (s^2) to be unable to describe the population variance (σ^2), the resulting regression model cannot be used to estimate the value of the dependent variable of the value of particular independent variables, and the regression coefficient obtained is not accurate.

The autocorrelation problem is overcome by transforming the data with the method of *Cochrane Orcutt*. Based on the results of the regression analysis by using the data obtained from the *Cochrane Orcutt* transformation, it is disclosed that the value of DW is 1.845. The value of $d_{L_{0.05; 5; 71}} = 1.4685$ and $d_{U_{0.05; 5; 71}} = 1.7685$. The value of $DW > d_U$; $1.845 > 1.7685$ and $(4 - DW) > d_U$; $(4 - 1.845) > 1.7685$. The conclusion is that an autocorrelation does not

occur. The regression model is also free of multicollinearity problems, where the value of tolerance is over 0.10 and VIF is less than 10. The resulting equation has been accurate, and it can be used for estimation. The equation after the transformation is as follows:

The reliability of the model or the coefficient of determination (R^2) of the regression equation obtained is 0.971. This means that 97.1 percent of the diversity of the dependent variable (Y) can be explained by the variables of the rice harvested area (LP), the acreage of crop failure (P), the rainfall (C), the rainy days (H), and the time (t) which are incorporated into the model.

The F test results show that the value of F_{count} (438.75) is higher than the value of $F_{(0.01; 5; 65)}$ (3,31). Thus, it can be concluded that variables of the rice harvested area (LP_{t-1}), the acreage of crop failure (P_{t-1}), the rainfall (C_{t-1}), the rainy days (H_{t-1}), and the time (T_{t-1}) simultaneously significantly affect the amount of rice production (QPB_{t-1}) at α 1 percent. The influence of each of these variables is as follows:

1. *The rice harvested area.* The rice harvested area significantly affects the amount of rice production (QPB_{t-1}) at α 1 percent. The regression coefficient of the rice harvested area (LP_{t-1}) is 2.43. Based on this coefficient, it can be assumed that with the increase of 1 hectare of the harvested area, the rice production in the Bengkulu Province will increase by 2.43 tons.

The rice harvested area in 2011 decreased, then in 2012 and 2013 increased again, but in 2014 decreased again. In 2015, the rice harvested area decreased 12.70 percent compared to that of 2014, in which the wetland rice harvested area decreased more than that of the dry land rice harvested area.

The decrease of the wetland rice harvested area is mainly due to the reduced potential of the wetland area. Although there have been attempts to create new wetland rice fields, but the shrinking of the wetland rice fields still continues occurring. The results of the study by Romdhon (2013), reveals that the shrinkage of the wetland rice fields in the period between 2006 and 2011 reached 13,199 hectares (10.87 percent) or 2,200 hectares per year (18.12 per cent per year). Based on the data from BPS (2013 - 2016), it is known that in 2012, a decrease in the wetland area can be reduced as much as 1,468 hectares. In 2013 the Regency of Bengkulu Utara succeeded in creating a thousand hectares of the wetland rice fields, so that the total area of the potential wetland rice fields in Bengkulu Province in 2013 increased by 352 hectares. However, in 2014 the acreage of the wetland rice fields decreased again by as much as 3,804 hectares (3.80 percent), and in 2015 the acreage of the wetland rice fields drastically decreased by as much as 4,599 hectares (4.78 percent).

The results of the observation on the decrease of the potential wetland rice fields in the regencies / municipalities reveal that the largest decrease of the potential wetland rice fields occurred in the Regency of Seluma and Bengkulu Utara. But in relative terms, the decline of the wetland rice field area in the City of Bengkulu is larger than that of the regencies existing in Bengkulu Province, namely by 63.32 percent. This is especially caused by the insistence of the number of people who need the land for housing, roads, and offices.

According Romdhon (2013), the shrinking of the wetland rice field area in the Province of Bengkulu is caused by the conversion of the wetland rice fields into the plantations, especially oil palm plantations and into infrastructure, such as office buildings, housing, trade centers and so on, especially in the newly expanded areas.

The results of the study by Sugandi, et al. (2012), the conversion of the wetland into a palm oil plantation in Bengkulu Province is caused by non-economic and economic factors. Non-economic factors, such as the risk of the failure of the wetland rice farming which is fairly high, the lack of counselling intensity, the lack of knowledge of the rules of the conversion of the land use, and the constraints related to the unavailability of irrigation water. The economic factor is due to the value of the benefit (land rent) which is greater. If the wetland is planted with oil palm, the farmers' income will be higher by 8% than if it is planted with rice.

The conversion of the wetland function in Bengkulu Province also occurs in the transmigration areas. The results of the study by Hary (2012) show that the factors affecting the transmigrants to transfer their land function, among others are the number of productive

family members; the duration of formal education; plantation crop seed aid from the government; and the membership of the farmer groups.

If the rice harvested area cannot be sustained and it continues declining, then certainly in the years to come, Bengkulu Province will be in a deficit of rice. The results of the study show that the regression coefficient of the rice harvested area (Lag_LP) is 2.433, and in 2015, the rice harvested area is 128,833 hectares, the availability of rice from the domestic production is 332,718 tons, the number of population is 1,874,944 inhabitants and the number of their rice consumption is 198,988 tonnes. The per capita rice consumption is 106.13 kg per capita per year, the population growth rate is 1.61 percent per year, and the level of rice production technology is assumed to be fixed and applicable in the subsequent years. If, in 2016 the wetland rice field area decreases just one percent less than that of the 2015, the production of rice will be reduced by 2.433 multiplied by 1,288 hectares, or about 3,135 tons. And if the wetland rice field area continues decreasing at the same rate, then in 21 years to come, the availability of the rice from the domestic rice production will not be able to meet the needs of the rice of the population of Bengkulu.

If the rate of the decline of the harvested area is more than one percent per year, then the rice deficit will occur in a shorter period of time to come. If the rate of the decline in the wetland rice harvested area is 2 percent, then the rice deficit will occur in 15 years to come. And if the rate of the decline in rice harvested area in 2015 cannot be stopped and continues decreasing at the same rate, then the rice deficit will occur in 2019.

If, National Desirable Dietary Pattern in 2019 is in accordance with the main priority targets of the National Medium Term Development Plan (NMTDP) of 2015-2019, namely reaching the score of 92.5 where rice consumption has met the national standard of 91 kg per capita, then the results of the estimated deficit in rice in Bengkulu Province at the time of the decrease of the wetland area is respectively by 1 percent, 2 percent, and 12.7 percent, will respectively be 23, 20 and 6 years to come.

2. *The Acreage of Crop Failure.* The regression coefficient of the Acreage of Crop Failure (Lag_P) is 1.46, however, the variable of the Acreage of Crop Failure does not significantly affect the amount of rice production ($t < t_{(0.10; 65)}$), so the Acreage of Crop Failure cannot be used to estimate the amount of rice production.

The Acreage of Crop Failure is the total area of the rice plants whose result is less than or equal to 11% of the normal condition. The crop failure can be caused by pests or diseases of the rice plants, flood, drought, or other causes such as landslides. The average area of crop failure at the time of the study was only 0.47 percent of the total harvest, with a range of 0.03 to 1.38 percent.

3. *Rainfall.* The pattern of planting or growing season is very much dependent on water availability, especially in the rainfed and the dry land rice fields. According to Surowinoto (1983) the rainfall needed by the rice plants is an average of 200 mm per month or more with the distribution for 4 months. The desired rainfall is around 1.500-2.000 mm per year.

The average rainfall per month in the Province of Bengkulu at the time of the study (2010 - 2015) was 262 mm per month with a range of 7-717 mm. The average annual precipitation was 3,142 mm per year in the range of 2,500-3,981 mm.

The trend of the rainfall per month that occurred in 2010-2015 was decreasing. The peak of the rainfall occurred around November and the lowest amount of the rainfall was around September.

The results of the study reveal that the regression coefficient of the rainfall (Lag_C) is -4.41. Based on this coefficient, it can be assumed or predicted that with the increased rainfall of 1 mm, the production of rice in Bengkulu Province will decrease as much as 4.41 tons. This is due to the high amount of rainfall in the Province of Bengkulu. Although it tends to decline, the average amount of the rainfall occurring each month is far above the average required by the rice plants to produce optimally.

The results of the study by Suriadi (2010) also show that the rainfall is one of the causes of the decline in rice production in West Java. The shifting of the rainy season for about a month can cause a decrease of rice production around 500,000 to 600,000 tons.

According to McCarl *et al.* (2001) the impact of the climate change differs in each region. In one area the climate change can reduce production, but in other areas it can increase production. Saseendran *et al.* (2000) conducted a study on the effects of the climate change on the Humid Tropics in Kerala, India. The results of his study indicate that the increased rainfall causes rice production to increase exponentially. However, the decline in rainfall of 2-16 mm / day causes a constant decrease of production as much as 8 percent. Amin *et al.* (2015) conducted a study in Bangladesh on three types of rice plants (Aman, Aus and Boro). Aman rice plants are planted in the rainy season (June to August), Aus rice plants are planted in the dry season (March-April) and Boro rice plants are planted in the winter (December-January). The average annual rainfall in Bangladesh is 1,600 mm. The results his study indicate that an increase in rainfall over the optimum requirement causes Aman rice production to decrease, but Aus rice production to increase.

According to Irawan (2006), the shifting of the rainy season is caused by the climate anomaly of El Nino and La Nina. The occurrence of El Nino is usually followed by a decrease in rainfall and an increase in air temperature. While the occurrence of La Nina stimulates the increase in rainfall above the normal level of rainfall. Both of these climate anomalies affect the agricultural production, especially in the short-lived crops. The crop failures at the time of El Nino are caused by the drastic decrease of the rainfall which causes a drought. At the time of La Nina, the rainfall increases dramatically, causing flooding. The climate anomalies of El Nino and La Nina are becoming more frequent with increasingly extreme seasonal condition and longer duration. The result is that the dry season is getting longer or the rainy season is getting longer, causing flooding.

The decrease in rice production is caused by harvesting failures or planting failures due to lack of or excessive rainfall. High rainfall in November and December leads to the fairly high possibility of flooding.

The farmers who are experienced will be planting in May-June so that the crop can be harvested in September-October. In November or December, they do tillage and plant, so that the peak of the harvest takes place in March-April. This is in accordance with the opinion of McCarl *et al.* (2001) who states that farmers can adapt to the climate change by changing the cropping season, replacing cultivar, changing irrigation practices, and change the allocation of land use.

4. Rainy Days. At the time of the study, it is revealed that the average number of rainy days in the period of 2010 - 2015 is 16 days per month. The number of rainy days per year ranges from 116 to 272 days. The highest number of rainy days is in December and the lowest is in August. In the period between June and October, the number of rainy days is ≤ 14 days with a range of 11 to 14 days, and in the period from November to May, the number of rainy days ≥ 15 days with a range of 15 to 23 days.

The number of rainy days per month from 2010 to 2015 tends to decrease. The lowest number of rainy days experiences a shift, whereas the highest number of rainy day remains in the period of November - January.

The results of the study reveal that the regression coefficient of the rainy days (Lag_C) is 110.70. Based on this coefficient, it can be assumed or predicted that with an increase of one rainy day, the production of rice in Bengkulu Province will increase by 110.70 tons. This may be due to the number of days of rain that occurred during the study tended to decrease. With increasing number of rainy days, the potential of production will increase, because the rainfall will be more evenly or in other words, the water remains available for rice cultivation.

Like a coin, a rainy day is on one side and a dry day on the other side. The dry days are calculated by reducing of the number of days in a given month by the number of rainy days (Suriadi, 2010). The decrease in the number of days of rain means the number of dry days increases and the potential for a drought also increases. The results of the study by Pramudia (2002), there is an inverse and exponential relationship between monthly rainfall and the progression opportunities of the dry days. The series of the dry days increase when the rainfall decreases. The opportunity of the dry day series of more than 15 days increases if the rainfall is below 20 mm per month. Many dry days occur during the dry season, within

the period from June to September. The decrease of the rainy days in the dry season causes rice production to decline, so that a deficit in rice occurs in the dry season.

5. *Time*. Time is a proxy of the technology. Humans always make changes and adaptation of technologies so that the production of rice can fulfill their life needs. The results of the study reveal that the regression coefficient of time (Lag_t) is 68.18, which means that with an increase of time of 1 month, rice production increases by 68.18 tons.

Rice production can be increased through extensification and intensification efforts of rice plants. Extensification effort is difficult to carry out because the rate of creation of new wetland rice fields is slower than the rate of land conversion, so the potential of the wetland rice field area decreases each year. The decrease of the potential of the wetland rice field causes the potential of the rice harvested area to decrease.

The rice harvested area experiences a decreasing trend, although the steepness is not so apparent. Another effort that can be done is intensification or increased use of technology per unit area of land.

The results of the study by Hendri (2015) show that the area of the wetland rice fields, planted area, and seeds negatively affect production, whereas harvested area and the use of urea fertilizer have a positive effect. This study proves that the intensification efforts such as improved irrigation and technological innovation are more likely to increase rice production in the Province of Bengkulu than the extensification effort.

The successful implementation of these technologies can be measured by the productivity, namely the production per unit area of land. The rice productivity in this study is the rice production divided by the rice harvested area.

Rice productivity, both the wetland rice fields and the dry land rice fields in the Province of Bengkulu has an increasing trend over time. This finding is consistent with the results of the study by Simatupang and Maulana (2007), namely the trend that the rice harvested area tends to decrease but the productivity tends to increase.

According to Mohanty *et al.* (2012), this type of technology will allow farmers to adapt to the worsening of the global climate. The technology enables farmers to reduce the impact of climate change. To meet the rice sufficiency in the future, it is necessary to retain the potential of the wetland rice field which is still available, to increase cropping index, to mitigate climate change, and innovate the technology that can adapt to climate change.

CONCLUSION

1. Bengkulu Province is in surplus of rice, the domestic rice production can meet the needs of the rice consumption of its population.

2. The production of rice in Bengkulu Province is affected by the rice harvested area, the rainfall, the rainy days, and the time, which is a proxy of the technological change.

3. The decrease in the potential of the wetland rice field that has an impact on the rice harvested area and an increase in rainfall should be looked out for in relation to the sufficiency of rice in the Province of Bengkulu.

The implication of these findings is that, if a decline in the harvested area of the wetland rice field occurs, it will lead to a deficit in rice. The higher the rate of the decline in the rice harvested area, the greater the opportunity for a rice deficit. The decline in per capita rice consumption will slow down the occurrence of the rice deficit. The step to be taken is to inhibit the rate of land conversion and to increase the cropping intensity and food diversification.

The highest number of rainfall occurs in the period of November - January and the lowest number of rainfall occurs in the dry season in the period of June-September. In these months the possibility of planting failure or harvest failure due to flood or drought is high. As a result, the likelihood of rice deficit in those months is also high. At that time the Government, which in this case is *BULOG* of the Regional Division of Bengkulu, must instantly take measures to prevent or to reduce the risk of rice deficit by distributing the stock of rice.

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STUDY ON THE ABUNDANCE OF HETEROTROF BACTERIA ON LEAF LITTER MANGROVE IN COAST AREA SEDATI-SIDOARJO OF EAST JAVA

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ABSTRACT

Heterotrophic bacteria are responsible for degrading and recycling important elements such as carbon, nitrogen and phosphorus. Decomposers bacteria in mangroves litter, its existence has not been so much studied. Paper presents the results of study of the amount or abundance of rotting bacteria in the *Avicennia marina*, *Sonneratia* sp. and *Rizopora apiculata* on the coast of Sedati-Sidoarjo of East Java. Research method is experimental with field scale using Randomized Block Design or Randomized Complete Block Design by dividing the research for three blocks area, and statistics analysis with ANOVA. These results show that nearly 70% of mangroves in this area have been exposed or damaged. This is caused by human activities such as logging, opening of ponds and exposure of waves. The result of measurement of water quality parameter in this research ranged for pH 5.5-7.3, salinity 28-35, brightness 25-50 cm. Soil quality parameters are nitrite 0.143 mg/L, phosphate 0.160 mg/L, ammonia 2.05 mg/L, COD 80 mg/L and BOD 34 mg/L. Litter weight are 230.97 g/m²/year or 2.3 ton/ha/year in which leaf litter is the largest component of other organic waste. Waste production in this area is low compared to the result of Nurhasanah (1998) which reported 2.75 ton/ha/year. Statistics analysis with ANOVA showed significant difference between mangroves ($p=0,000$).

KEY WORDS

Heterotrof bacteria, mangrove, *Avicennia maria*, *Sonneratia* sp., *Rhizopora apiculata*.

One of the benefits of the existence of mangrove forests is to provide some food and nutrients for some marine animal species including those that have important ecosystem meaning. Nutrients and large amounts of organic matter in these mangrove forests are mostly derived from the leaves of mangroves and organisms that have died and broken down by microorganisms. Mangrove forests play a unique role and can not be replaced by forests and other ecosystems, namely as a chain of nutrients that are essential for several aquatic organisms (Hogarth, 2016). The vegetation has a certain composition and a clear zonation with uniform tree height.

In general, mangrove forests are known to have high productivity and many support the external ecosystem. Two important things that are interconnected are the material cycles within the forest and forest productivity. The material cycle includes importing and exporting organic materials that are still present or out of ecosystems spurred by existing physical and biological conditions (Willemsen, et al., 2016).

States that the litter of mangrove leaves in estuary provides an important nutrient base for the food web and is also an important food of fish and invertebrates. Although nutrient is poor when falling from trees, mangrove leaves become nutrients due to microbial processes (Naidoo, 2016).

The most important contribution of mangrove forests to aquatic ecosystems is through the decay of fallen leaves falling into the water. This leaves mangrove leaves an important source of organic material in the food chain in aquatic environments that can reach 7 to 8

tons / ha / year. The fertility of the waters around the key mangrove area lies in the input of organic material derived from this leaf blossom (Nontji, 1993).

States that bacteria exist almost in all ecosystems on the earth where it is responsible for degrading and recycling essential elements or elements such as carbon, nitrogen and phosphorus (Alongi, 1994). The energy contained in the body of bacteria is actually larger than the energy contained in the body of living organisms so that bacteria can regulate the food chain system in the waters and inland.

The existence of bacteria in the mangrove forest area has a very important meaning in decomposing the leaves of mangrove into an organic element that is very important in the provision of food for the organisms that inhabit this mangrove forest, where according to Sikong (1978), the mass of bacteria and fungi together results decomposition into Food for detritus-eating organisms that mostly consist of invertebrate animals. This detritus-eating organism will in turn be eaten by fish and other crustaceans.

Bacterial decomposers and mangroves (litter), its existence has not been so much studied. A good understanding of the existence of this bacteria decomposers is an exploratory matter to find / find the functions and benefits, so it can be an important information in the management of ponds cultivation that is located in the vicinity of mangrove forest.

MATERIALS AND METHODS OF RESEARCH

This research was conducted on the field scale that is in the sediment area along in coast area Sedati-Sidoarjo. Water quality analysis was conducted in-situ while soil analysis and bacterial abundance were conducted in the Biology and Environment Laboratory of Polytechnic Marine and Fisheries at Sidoarjo and University Airlangga.



Figure 1 – Research Area

Determination research area bloc 1, 2 and 3, took a sample in field and brought to laboratory were sampled is decomposed leaves (n=20). The method used is experimental with field scale using Randomized Block Design (RBD) or Randomized Complete Block Design (RCBD) by dividing the research area into 3 blocks. Each block consists of 3 treatments *Avicennia marina*, *Sonneratia sp* and *Rhizophora apicuata* with 3 replications for each type of mangrove.

The mangrove leaves taken as samples are decomposed leaves that form the litter and are separated from the newly fallen. Test on litter production is done in-situ while to calculate the amount of bacteria found in leaf litter is done in laboratory bio-ling.

Statistics analysis showed significant different between kind of mangrove ($p=0,000$) and to identify statistically significant variance, we used one-way analysis of variance (ANOVA) were performed using SPSS (Statistical Product and Service Solution) software.

RESULTS OF STUDY

Condition Mangrove. The mangrove forest that became the object of research in Sedati Sub-district of Sidoarjo Regency is located at $101^{\circ} 20'06'' - 101^{\circ}24'10''$ BT and $1^{\circ}35' 25'' - 1^{\circ}37'30''$ 'LU. The research location extends along 10 km with a thickness of 30 m in the northern part of which is limited by Buntung river and south there is Sungai Temak Cemandi which part of its condition is relatively good, whereas some or almost 70% have been opened or damaged (Fig.2 and Fig.3).



Figure 2 – Damage to mangroves in coastal area Ds. Segorotambak



Figure 3 – The mangrove plant that grows in the sediment of the Buntung River estuary

Willemsen et al. (2016) showed the results indicated that a reduced sediment supply did significantly reduce the sediment trapping capacity of the mangroves. Enabling tidal exchange across the causeway, increasing the sediment supply to the mangroves, resulted in deposition rates increasing with up to 300%. These results showed that re-establishing the sediment supply enhanced the resilience of the mangrove as higher deposition.

Water quality. Water quality parameters measured in this study is pH ranging from 5.5 to 7.3; Salinity 28 to 35; And brightness 25 cm to 50cm. While the soil quality parameters measured were Nitrite 0.143 mg / l, P 0.160mg / l, total ammonia 2.05 mg / l, COD 80mg / l and BOD 34 mg / l. In the study [7] ph ranged from 6.63 to 5.83, while the salinity obtained tends to be lower than the conditions obtained in Indonesia. This is possible due to differences in the condition of the territorial waters.

Serasah Production. The result of the measurement of the weight of the litter is 230.97g / m² / year or 2.3 tons / ha / year in which leaf litter is the largest component of other organic litter (Fig.4). In several studies have been published on root decomposition. Litter decomposition is performed mainly by bacteria and fungi and initially fast, followed by the rate of decline. Nutrient concentration Such as nitrogen, phosphorus, potassium, magnesium and calcium decline during decomposition The concentration of nitrogen, however, then increased due to colonization of detritus by bacteria, mushrooms, cyanobacteria and diatoms (Steinke, 1999). In many mangroves Standing, crabs and gastropods are able to remove it 30% of waste from the sediment surface (Lee, 2008). In Mngazana Muara, waste production is higher in summer than ininterinter, While leaf litter on the forest floor is minimal due to tides Rinsing and consumption by crabs. In this study 43% of waste is consumed.

With crabs, 10% decomposes on the forest floor and the rest 47% are exported (Rajkaran & Adams, 2007).



Figure 4 – Installation of mosaic litter traps *Avicennia* sp. and *Rhizophora* sp.

Total Bacteria. The average value of bacterial counts contained in the mangrove leaf litter as follows *Sonneratia* sp 1.077 x 10⁸, *Rhizophora* sp 0.446 x 10⁸, *Avicennia* sp 1,613 x 10⁸ (Fig.5).

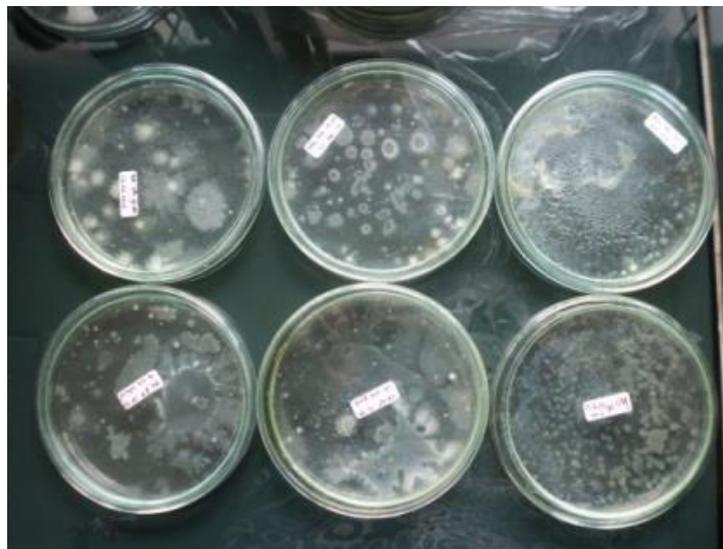


Figure 5 – Observation of bacterial count (TPC)

Analysis data. The result of BNT test with Tukey High Significant Difference method showed that the highest bacterial abundance was found in *avicennia* sp leaf litter. F and HSD test results can be seen in the following table (Table 1 and 2).

Table 1 – F test results on the number of bacteria in three types of mangroves

| n/n | Sum of Squares | df | Mean Square | F | Sig. |
|----------------|----------------|----|-------------|--------|------|
| Between Groups | 2.046 | 2 | 1.023 | 67.451 | .000 |
| Within Groups | .091 | 6 | .015 | - | - |
| Total | 2.137 | 8 | - | - | - |

Table 2 – HSD test results on the number of bacteria in three types of mangroves

| Species | N | Subset for alpha = .05 | | |
|---------------|---|------------------------|--------|--------|
| | | 1 | 2 | 3 |
| Rhizophora sp | 3 | .4467 | | |
| Sonneratia sp | 3 | | 1.0767 | |
| Avicenia sp | 3 | | | 1.6133 |
| Sig. | | 1.000 | 1.000 | 1.000 |

DISCUSSION OF RESULTS

Mangroves are highly productive coastal ecosystems found within the intertidal zones of the tropics and subtropics ranging from 35° N to 40° S latitude (Giri, et al., 2011). Damage occurring in some coastal areas caused by human activities in the form of logging, pond opening and exposed to wave hempanan. Scattered forests are found in several places and also found in ponds. Vegetation of mangrove forests in this area is generally small in size, both in diameter and height of trees are low. This condition is due to mangrove plants along the coastline Sedati District is relatively new or young growing vegetation as a result of the formation of new land due to the results of mud sediments carried by the river. Sampling was conducted on three groups of mangrove species with the distribution of location based on the representation of the species. The mangrove leaves taken as samples are decomposed leaves that form the litter and are separated from the newly fallen daunyang. Test on litter production was done in-situ while to calculate the amount of bacteria found in leaf litter was done in bio-ling laboratory of Sidoarjo Fishery Academy and University Airlangga. Nutrient availability in mangrove ecosystems is generally low, being influenced by tides, soil redox potential, organic matter content, microbial activity, soil type and surface elevation (Reef, et al., 2010). Nutrient deficiency in mangroves is due to the infertility of upland soils and low terrigenous input, and is indicated by slow growth rates, high root/shoot ratios, sclerophylly and nutrient resorption from senescent tissues (Reef, et al., 2010). Besides testing the above parameters, measurement of water quality parameters as supporting parameters for data analysis.

Measurement of litter production is aimed to determine the size of litter produced by one forest area in one year. Litter production in this area is low compared to Naidoo (2016) which reported 2,75 ton / ha / year. This condition is suspected because the mangrove forest in the coastal area of Sidoarjo Regency is a vegetation that is classified as young or growing new. The mangrove leaves that became the object of the study were limited to three species of mangroves namely *Sonneratia* spp, *Rhizophora apiculata* and *Avicennia marina* in the form of leaf litter (mangrove leaves that rot). Low litter production indicates that the area is relatively small in providing organic materials as a source of nutrients for detritus but the abundance of bacteria is quite high, presumably because the availability of nutrients is supplied from sediments formed from the river flow so that potential for the development of fish seeds as well other types.

CONCLUSION

Vegetation of mangroves in coast Sedati-Sidoarjo is dominated by *Avicennia* sp with low litter production of 2.3 ton / ha / year but high bacterial abundance is $1,04 \times 10^8$.

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ETIOLOGICAL STRUCTURE OF STREPTOCOCCOSIS OF PIGS IN VARIOUS REGIONS OF THE RUSSIAN FEDERATION

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ABSTRACT

The paper presents the results of laboratory-diagnostic studies of 8 pig-breeding enterprises in various regions of the Russian Federation conducted to isolate pathogens of streptococcosis of pigs and determine their etiological structure. It was found that *Streptococcus dysgalactiae* and *S. massiliensis* circulated in 50% of the enterprises, *Streptococcus porcinus*, *S. mutans* and *S. pyogenes* in 37.5% of cases, *Streptococcus agalactiae*, *S. gallolyticus*, *S. rubneri* and *S. uberis* in 25 % of cases, and *Streptococcus iniae*, *S. lutetiensis*, *S. pneumoniae* and *S. suis* in 12.5% of cases. The pathogenic properties of isolated cultures were identified on laboratory animals. *Streptococcus dysgalactiae*, *S. porcinus*, *S. pyogenes* and *S. Sui* have pathogenicity, which justifies the inclusion of these streptococci species in the antigenic composition of the vaccine for the specific prevention of pigs from streptococcosis.

KEY WORDS

Streptococcosis, coccal infection, biosafety, clinical signs, pathoanatomical changes, diagnosis, disease control, specific prophylaxis.

Streptococcosis is a group of infectious factorial diseases that affect mainly young animals of many species, caused by pathogenic streptococci and manifested in acute by septicemia and omphalitis, and in subacute and chronic - primary lesions of the lungs, joints, eyes and other organs [13]. According to current data, streptococcosis leads to significant economic losses, especially in industrial pig production, thereby emphasizing the need to combat these diseases through vaccine treatment. But for pig enterprises there is a huge problem associated with the lack of modern and full-fledged means of specific prevention of this group of diseases. So, on the territory of the Russian Federation only 3 vaccines have been officially registered in December 2017, aimed to specific prevention of streptococcosis in piglets, namely: VERRES-SPS (Vetbiochim Ltd), Vaccines against salmonellosis, pasteurellosis and streptococcosis of piglets (FCS "Armavir Biofactory") and "Vaccine against respiratory diseases of pigs, polyvalent inactivated Donoban-10" (KBNP, INC.). While all three vaccines in the antigenic composition contain only components of *Streptococcus suis* of various serogroups. Since the number of authors have established that different types of streptococci do not have the possibility of forming a cross immune response, the given vaccines are not able to fully protect animals from streptococcosis caused by other species of this genus [2, 3, 9].

The solution of this problem, important for the Russian pig industry, can be the development of an effective modern vaccines with an extended antigenic composition of

streptococci, for the creation of which the primary task is to study the etiological profile of streptococcosis in the country.

The aim of the study was to investigate the prevalence of bacteria of the genus *Streptococcus* in industrial pig production in various regions of the Russian Federation and to determine the etiological structure of streptococcosis.

MATERIALS AND METHODS OF RESEARCH

The study was conducted on the basis of the All-Russian Scientific Research Institute of Experimental Veterinary Medicine named after Y.R. Kovalenko. Selection of pathological material was carried out at pig enterprises of Pskov, Moscow, Belgorod, Ulyanovsk, Tambov regions, and the Republic of Mordovia and Buryatia and the Stavropol Territory in 2015-2017. The material for the study was obtained from animals in the age group up to 45 days, since this group of animals is most susceptible to streptococcosis, manifested with typical clinical and morphological features, namely arthritis, lymphadenitis, meningitis, respiratory pathologies, fever, etc. Samples of parenchymatous organs, lungs, joints, lymph nodes, and brain were used as material for bacteriological analysis. In all cases, the number of animals, from which the material was studied, varied between 6 and 21 heads. Since streptococcosis has a mass character among certain age groups, we recognized the isolation of the streptococcus culture from one pig as circulating it among the entire population of the enterprise, i.e. not an isolated case.

During the complex laboratory diagnostics of streptococcosis, the following nutrient media were used: MPA with the addition of 5-10% of the sheep blood, MPB, columbia agar, broth core with bromocresol purple, cardiovascular broth, Müller-Hinton agar.

STREPTOtest 16 test systems were used to identify cultures of streptococci, as well as carbohydrates: adonitol, arabinose, galactose, D-glucose, dulcitol, inositol, inulin, xylose, lactose, maltose, mannitol, mannose, melibiose, raffinose, rhamnose, salicin, sorbitol, sucrose, trehalose, fructose, cellobiose from Himedia, using bromocresol purple broth as an indicator medium.

For the control of nutrient media and diagnosticums, reference cultures of microorganisms were used, which are at the disposal of the microbiology laboratory with the Museum of Typical Cultures of the FBBNU VIEV named after Ya.R. Kovalenko.

The study of the biological properties of cultures was carried out on the territory of the Vyshnevolotsky branch of the FGBICU VIEV named after Ya.R. Kovalenko with an experienced base about. *Lysias*. As biological model, white mice weighing 16-18 g were used.

RESULTS AND DISCUSSION

As a result of laboratory and diagnostic studies, we managed to isolate a number of streptococcal isolates from the sectional material from various Russian pig farms (Table 1).

As can be seen from Table 1, in the bacteriological study of samples of the sectional material from pigs with the clinical and morphological manifestation of streptococcosis, 13 types of streptococci were isolated and identified (group D streptococci were not included in the record, since according to the modern classification they belong to the genus *Enterococcus*). Analyzing obtained data, it can be noticed that several types of streptococci circulate at the same farm simultaneously, therefore the etiological role of each of these species should be established. Nevertheless, it was found that *Streptococcus dysgalactiae* and *S. massiliensis* were found in 50% of enterprises, *Streptococcus porcinus*, *S. mutans* and *S. pyogenes* in 37.5% of cases, *Streptococcus agalactiae*, *S. gallolyticus*, *S. rubneri* and *S. uberis* in 25% of cases, and *Streptococcus iniae*, *S. lutetiensis*, *S. pneumoniae* and *S. suis* in 12.5% of cases.

According to the literature data about the listed strains of streptococci that can cause pig diseases, *Streptococcus dysgalactiae* [8] *Streptococcus porcinus* [7], *Streptococcus*

pyogenes [2], Streptococcus suis [5, 12] and other streptococci were not noted as etiologically significant in the occurrence of streptococcosis at pig-breeding enterprises.

Table 1 – Results of the isolation of bacteria of the genus Streptococcus from piglets with signs of streptococcosis, in various regions of the Russian Federation*

| | | Pskov region | Moscow region | Belgorod region | Ulyanovsk region | Tambov Region | Republic of Mordovia | Republic of Buryatia | Stavropol region | Percentage of cases, % |
|---|----------------------------|--------------|---------------|-----------------|------------------|---------------|----------------------|----------------------|------------------|------------------------|
| 1 | Streptococcus agalactiae | + | | | | + | | | | 25 |
| 2 | Streptococcus gallolyticus | | | | + | | | | + | 25 |
| 3 | Streptococcus dysgalactiae | | + | + | + | | | | + | 50 |
| 4 | Streptococcus iniae | | | | | | + | | | 12,5 |
| 5 | Streptococcus lutetiensis | | | | | + | | | | 12,5 |
| 6 | Streptococcus massiliensis | + | + | | + | | | + | | 50 |
| 7 | Streptococcus mutans | | + | + | | | + | | | 37,5 |
| 8 | Streptococcus pneumoniae | | | + | | | | | | 12,5 |
| 9 | Streptococcus porcinus | | | | | + | + | | + | 37,5 |
| 1 | Streptococcus pyogenes | + | | | | + | | + | | 37,5 |
| 1 | Streptococcus rubneri | | | + | + | | | | | 25 |
| 1 | Streptococcus suis | | + | | | | | | | 12,5 |
| 1 | Streptococcus uberis | | | + | | + | | | | 25 |

* The isolates of streptococcus were preserved in the collection of microorganisms of the FBBNU VIEV named after Y.R. Kovalenko for further study.

For the final establishment of the etiological significance of all obtained streptococcal isolates, we tested the pathogenicity on white mice, as a biological model, under the conditions of the vivarium of Vyshnevolotsky branch of VIEV. To determine the pathogenic properties of each isolate, two experimental mice weighing 16-18 g were used, the total number of animals participating in the experiment was 68 heads, of which 58 were experimental and 10 were control. Mice were infected by subcutaneous injection of 0.5 cm³ of 24-hour streptococci culture grown on cardiovascular broth. The concentration of bacterial cells, due to a sterile physiological solution, was set at 3 billion mcd. cl. in 1 cm³. Observation of animals continued for 14 days or until the death of animals. The isolate was recognized as pathogenic in the case of death of both white mice, or in the development of signs of the disease in mice, followed by pathoanatomical dissection and isolation of a pure culture of streptococcus.

As a result of the work, it was established that all isolates of Streptococcus dysgalactiae, Streptococcus pyogenes, Streptococcus suis and Streptococcus porcinus possess pathogenicity. At the indicated concentration, mice died within 48-72 hours from the moment of infection, which is evidence of their special significance in the etiologic structure of streptococcosis in piglets, and emphasizes the need for further study of this problem.

CONCLUSION

The intensive development of the pig industry leads to the expansion of the spectrum of microorganisms circulating in the enterprise, leading to the development of the infectious process, which, first of all, is associated with the importation of a new, often foreign, livestock. A striking example of this conclusion is streptococcosis, the etiologically significant causative agent of which was previously considered Streptococcus suis, on the basis of

which domestic vaccine preparations for the prevention of streptococcosis caused by this species were developed. Expanding the species composition of streptococci, clinically significant in animal diseases in pig breeding enterprises, requires urgent scientific research aimed at developing modern domestic drugs for specific prevention of streptococcosis [1, 4, 6, 10, 11, 14]. To determine the necessary antigenic composition of the vaccines, we studied the specific composition of streptococci circulating in a number of pig-breeding enterprises of the country. The obtained data underscore the advisability of creating a new vaccine for the prevention of streptococcosis, which includes *Streptococcus dysgalactiae*, *S. pyogenes*, *S. porcinus* and *S. suis* strains as antigens, since these species currently have a significant etiological significance in the territory of various regions of the Russian Federation. A single case of isolating the culture of *Streptococcus suis*, in 1 out of 8 enterprises, can be considered as an effective scheme for the prevention of streptococcosis caused by this type of pathogen by existing vaccines. That is why, to create a full-fledged and effective vaccine preparation, this type of streptococcus should be included in the antigenic composition of the biological product. Undoubtedly, the number of studied enterprises is limited, but the results sufficiently correspond to foreign data on the etiological structure of streptococcosis pathogens.

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INCREASING NUTRITIONAL CONTENT OF ARTIFICIAL FEED WITH WHOLE SPORE PROTEIN OF MYXOBOLUS KOI AS AN IMMUNOSTIMULANT ON GOLDFISH (CYPRINUS CARPIO L.)

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ABSTRACT

The production of goldfish in Indonesia in 2010-2013 has increased by 7.09%, the lowest average production increase compared with other main commodities such as shrimp, tilapia, catfish, and others. One of the primary causes of the low increase in production is the presence of disease and high price of feed in some central goldfish productions. The purpose of this study was to analyze the effect of whole spore protein of *Myxobolus koi* on goldfish (*Cyprinus carpio* L.) through feed to immune response, growth rate, feed efficiency and survival rate. This research was conducted with complete randomized design with 5 replications. This study used two types of treatment, control (100% artificial feed) and artificial feed + immunostimulant (whole spore protein of *Myxobolus koi* + Boster® Progol adhesive spores). The results showed that whole spore protein of *Myxobolus koi* given to the feed as immunostimulant can cause response of the immune through the increase of monocytes and lymphocytes in white blood cells on days 7, 14 and 28 observations, daily growth rate of 5.55% compared without immunostimulant with the rate of 1.13%; feed efficiency of 36.57% compared with no immunostimulant, which is only 23.84%, and the treatment gives a 99% survival rate.

KEY WORDS

Myxobolus koi, *Cyprinus carpio*, growth rate, feed efficiency, survival rate.

The production of goldfish in Indonesia in 2013 reached 340,863 tons with an average increase of 7.09% from 2010. Despite of the average production increase, it is the lowest average compared with other main commodities such as shrimp, tilapia, catfish, and others that have an increase on average of 10-95%. Some of the causes to the low increase in the average production, among others, are due to the general capacity of goldfish businesses are still categorized in small business scale, and the high price of manufactured feeds also become influential factor; the emergence of disease in some central production has become the main reason of low increase in production (Directorate General of Aquaculture Ministry of Marine Affairs and Fisheries, 2013).

The success of goldfish aquaculture is mainly influenced by the accuracy of feed management, water quality management and the accuracy in disease control. One of the obstacles in the aquaculture is that it is very susceptible to poor environmental conditions, so it is easily infected by pathogens. Based on these conditions, one way to increase the production of goldfish is by increasing the immune system and suppress the spread of disease on the body (Suprayudi et al, 2006).

Controlling the spread of disease in the body should be executed as early as possible to avoid any possibility of outbreaks that may cause bigger economic losses (Alifuddin, 2002). In fish farming activities, the most commonly used method for treating pathogen infection is the limited use of antibiotics and chemotherapeutics. However, in addition to having low effectiveness and expensive price, and the use of chemicals can lead to accumulation in the environment. An alternative strategy that can be applied is the regulation of nutrients by utilizing the immune response and disease resistance found in the fish body (Suprayudi et al, 2006).

The increasing immunity of the body against disease cannot only be done by feeding with a balanced nutrient composition, but can also be accompanied by immunostimulant in the feeds. Immunostimulant is directly related to immune system cells that make the cells more active (Ekawati et al, 2012).

The strategies of controlling pathogens on fish aquaculture business in the last 20 years have been carried out with the use of antibiotics and chemicals, without any awareness that its long-term use of chemicals can lead to resistance to some pathogens. Vaccination is considered as a very effective treatment in overcoming the pathogen problem in cultivation, but the price is very expensive and, on the other hand, may cause stress for the fish. One promising alternative technique in strengthening the fish immune system to deal with pathogen attack is the application using immunostimulants (Labh & Shakya, 2014).

A material may be used as an immunostimulant if it has immunogenic properties. Yusuf (2016) has successfully characterized each of the protein sizes of the whole protein of *Myxobolus koi* using the SDS-PAGE method (sodium dodecyl sulfate polyacrilamide gel electrophoresis). Results of SDS-PAGE of the whole spore protein of *Myxobolus koi* obtained the presence of proteins depicted in ribbon form on SDS-PAGE gel and obtained 6 bands of proteins with molecular weight (BM) 68.1 kDa, 38.5 kDa, 25.6 kDa, 23 kDa, 21.7 kDa, and 18.9 kDa. These results indicate that the proteins found have a high molecular weight. According to Harlow and Lane (1998), immunogenic proteins are proteins that have a molecular weight of 20,000-100,000 Daltons. The whole spore protein of *Myxobolus koi* can also increase immune response and survival ability of the goldfish from 10% to 86%. In addition, it can also increase the immune system against *Myxobolus koi* infection (Mahasri, 2016).

Based on the elaboration, it is necessary to develop a method of preventing proper pathogens through research by analyzing the increase of artificial feed nutrition value with the addition of whole spore protein of *Myxobolus koi* on the goldfish (*Cyprinus carpio* L.) to increase the growth rate as well as the survival rate.

The objective of this study is to analyze the addition of whole spore protein of *Myxobolus koi* on the goldfish (*Cyprinus carpio* L.) as the immunostimulant development material to the immune response (leukocyte differentiation), growth rate, artificial feed efficiency and also survival rate.

MATERIALS AND METHODS OF RESEARCH

This research was conducted in August 2016 until February 2017 at Installation of Freshwater Aquaculture (IBAT), in Dlanggu, Mojokerto, and the test of feed proximat analysis was conducted at the Feed Laboratory, Faculty of Veterinary, Airlangga University Surabaya.

This research was conducted with completely randomized design with two treatments and sampling technique was done 5 times. This study used two types of treatments, controlling treatment (100% artificial feed) and artificial feed + immunostimulant (whole spore protein of *Myxobolus koi*) + Boster® Progol adhesive.

Test animals used in the study were 2,200 goldfish (*Cyprinus carpio* L.) measuring 3-5 cm, put in the 2 ponds containing 1100 fish for each for two different treatments. The goldfish were brought from Punten, Malang Regency.

The equipments used in this study include two 1x7x8 meter sized ponds, 2 plastic tubs, nets, strainer, sieve, hoses, milling, sieving, basin, pellet producer, oven, plastic, scissors, paper, baking sheet and digital scales, namely water quality gauges (pH pen, thermometer, DO meter, ammonia test kit), surgical tools (scissors and tweezers), hematological parameters using light microscope, capillary pipette, syringe, sahm hemometer, eppendorf tube, glass object, glass cover, sectio set, microplate, ose, petri dish, pipette, test tube, micropipet, beaker glass, tubes, microtube, centrifuge and haemositometer.

The immunostimulant used in this study was an immunostimulant extracted from the *Myxobolus koi* parasite protein that has been studied and developed by Joseph (2016).

The ingredients for protein isolation are the phosphate buffer saline/PBS (Bio-Rad) solution, protease inhibitor consisting of: 100 ml PBS, 100 µL 40 mM PMSF, 7.3 mg TLCK and 7.5 mg EDTA (Sigma-USA) nonidet P40 0.5% (Sigma-USA).

Materials used in protein analysis using the SDS-PAGE method were separating gel and stacking gel, PBS, T-Akril, ddH₂O, tetra methyl diamine (TEMED) (Bio-Rad), ammonium persulphate, Tris (*hydroxymethyl*), HCL (*Merck*) pH = 8.8 and 6.5, detergent sodium dodecyl sulphate (SDS), aquadest and comassie brilliant blue dyes.

Spores that have been calculated were pured with PBS sufficiently then centrifuged at 5,000 rpm for 10 minutes. The pellet plus 500 µl lysis buffer was then synonymized in ice (1 minute sonication, ½ min rest), repeated for 10 times. The result of sonication was then vortexed (½ minute vortex, 1 minute break) in ice, repeated for 15 times. The result of vortex was centrifuged with 12,000 rpm for 5 minutes, the supernatant formed was collected and then analyzed by SDS-PAGE (Aulanni'am, 2004).

The determination of the concentration of the whole spore protein of *Myxobolus koi* was conducted using Bio-Rad Protein Assay method and interpreted using UV-Visible Spectrophotometer with 600 nm wavelength.

The activity is intended to know the closely molecular pattern of each protein fraction. Analysis of the protein was done by electrophoresis method of SDS-PAGE with the composition of separating gel of 12.5 and stacking gel 5%. This method of electrophoresis was carried out by making running gel inserted into a glass plate. After the gel was hard, stacking gel was applied at the top of it (Osborne & Brooks, 2006).

A 10 µg sample added with Laemly buffers with 2: 1 ratio was boiled at 100°C for 5 minutes and put into a well located on the stacking gel. As the marker, protein was used with molecular weight in the range of 10-180 kDa (New England Bio-Labs), and running was performed on a chamber that had been filled with Electrode Buffers IX with 100 volts, 40 mA. The running process was stopped after the blue marker reached the lower limit of the plate gel. The gel was then introduced into a washing solution consisting of 25 ml methanol, 3.7 ml acetic acid and 100 ml aquadest. The sample was shaken on top of shaker for 30 minutes. Reprocessing was carried out with the same solution as the reduction of the ethanol composition and the addition of half acetic acid from the previous for 30 minutes. After washing the gel stained with silver nitrate (AgNO₃) for 15 minutes, then it was washed with aquadest 2 times for 2 minutes respectively. Given a color development solution consisting of 3.7% formaldehyde, 5% zintronsauce and aquadest. After the tape was seen, the reaction was stopped by adding 10% acetic acid. The resulting gel yielded of the protein bands were ready to be documented (Laemmli, 1970).

The result of SDS-PAGE electrophoresis in the form of bands can be determined by molecular weight by calculating Rf (Retardation Factor) score from each band with the following formula (Rantam, 2003):

$$Rf = \frac{\text{Distance of protein movement from starting point}}{\text{Distance of color movement from starting point}}$$

Then the Rf score is inserted to the linear regression equation as the following formula:

$$Y = a + bX$$

Where: Y = molecule weight, X = Rf score of sample.

Feeding was done in the feeding room of the IBAT Feed Laboratory, the feed was prepared at each treatment as much as 3% of the total weight of the fish of each fishpond for a single feeding. Artificial feed was prepared on treatment P0 as controlling treatment and artificial feed + immunostimulant made of whole spore protein of *Myxobolus koi* as the treatment P1 with dose of 1 µg protein /gram fish + progol adhesive with the volume of 5 ml/kg feed referring to research conducted by Yusuf (2016).

The two types of feeds were firstly tested for proximat analysis in Inspection Unit of Laboratory, Consultation and Training, Ministry of National Education, Faculty of Veterinary Medicine, Airlangga University.

Immunostimulatory mixing with the feed was done by spraying on the stirred feed to make it homogeneous, then it was dried to avoid moisture.

Object glass was cleaned with alcohol. The blood of the test fish was dropped about 1 cm from the left end of the object glass, shifted towards the right glass so that the blood will spread along the side of the shining glass. The blood was dried and ready for coloring. The smear preparation was fixed with methanol for 3-5 minutes and allowed to dry. The preparation was then stained with giemza solution for 30 minutes. The preparation was then washed with aquadest and allowed to dry on the shelf. When it was dry, the preparation was examined under a microscope with 400x magnification and calculated for each type of leukocyte using a blood counter. Cells counted were at least 100 cells and calculated in terms of the percentage of leukocyte types.

The calculation of specific growth rate (SGR) was calculated in daily bases for the growth rate of each individual. Specific growth rate of the fish was calculated using the formula proposed by Zonneveld et al. (1991) as follows:

$$SGR = \frac{W_t - W_0}{W_0 \times t} \times 100 \%$$

Where: SGR = Specific growth rate (% / day), W_t = Biomass of test fish at the end of the study (g), W_0 = Biomass of test fish at the beginning of the study (g), t = duration (days).

Feed efficiency is the value of the ratio between weight gain and the consumed feed in percentage. The feed efficiency can be calculated using the NRC Formula (1977), as follows:

$$EP (\%) = \frac{[(W_t + W_d) - W_0]}{F} \times 100\%$$

Where: W_t = total weight of fish at the end of cultivation (gram), W_0 = total weight of fish at the beginning of cultivation (gram), W_d = total weight of fish that are died during cultivation (gram), F = total feed given (gram).

Determining the survival rate (SR) was performed as a supporting parameter to analyze the goldfish immune response in each treatment. The survival rate is calculated as a percentage of the number of the goldfish living up to the 30th day after the experimental treatment of the total number of fish being cultivated. The survival of fish can be calculated using the following formula:

$$SR = \frac{N_t}{N_0} \times 100\%$$

Where: SR = Survival rate, N_t = number of fish living at the end of the observation, N_0 = number of fish living at the beginning of the test

RESULTS AND DISCUSSION

Based on its cytoplasmic granulation, leukocytes are differentiated into granular including basophils, eosinophils, and neutrophils, as well as agranular namely lymphocytes and monocytes. Leukocyte differential observations were calculated in 100 white blood cells observed under a microscope with 400x magnification. Leukocyte Differential can be seen in Table 1. On the 7th day of observation, lymphocytes and monocytes of treatment P1 (artificial feed + immunostimulant) increased in number from the day before the treatment, while the number of neutrophils, eosinophils and basophil of treatment P1 decreased. The highest lymphocytes and monocytes us shown in treatment P1. On day 14 observation, lymphocytes of treatment P1 (artificial feed + immunostimulant) increased from the day before treatment and the day 7 observation, while the number of monocytes, neutrophils, eosinophils and

basophils of treatment P1 decreased. On day 28 observation, lymphocytes and monocytes of P1 treatment decreased from the day 14 observation. The number of treatment lymphocytes P1 was higher than the treatment P0. The number of eosinophils and basophils in treatment P1 also increased.

Measuring the specific or daily growth rate was performed on the 28th day of the observation. Figure 1 shows the daily growth rate data on both treatments during the research, of which show the daily growth rate at treatment P1 (5.55%) is higher than the treatment of P0 (1.13%).

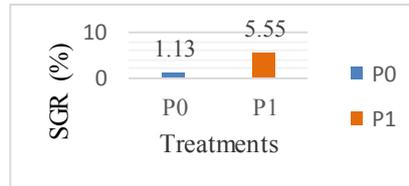


Figure 1 – Daily growth rate of both treatments on the goldfish during the research

The measurement of feed efficiency was conducted on the 28th day of the research. Figure 2 shows the data on feed efficiency in the two treatments during the research. From the data show that the feed efficiency at treatment P1 (36.57%) is higher than treatment P0 (23.84%).

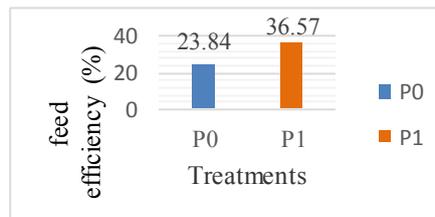


Figure 2 – Feed efficiency of the two treatments on the goldfish during the research

The survival rate of the goldfish during the cultivation process becomes crucial parameter of the success in the cultivation. Figure 3 below is the the graph showing the survival rate of the goldfish during the study.

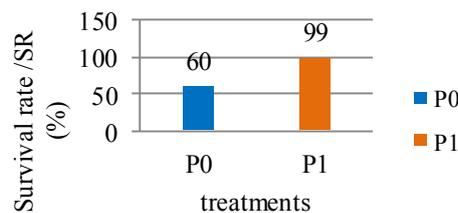


Figure 3 – Diagram of survival rate percentage of the goldfish of the two treatments

The results of the calculation of survival rate of the goldfish (*Cyprinus carpio* L.) had been conducted for 28 days of observation, showing the survival rate of treatment P1 (99%) is higher than the treatment P0 (60%).

The quality of the water in the fishpond during the study is an important factor in successful cultivation. The average result of the examination on the quality parameter of the water during the study is presented in Table 1.

During the research conducted, the water was changed every day as much as 25% of the total water volume. The quality of the water in this research was categorized into normal condition for the cultivation of goldfish.

DISCUSSION OF RESULTS

Yusuf (2016) has successfully characterized each of the protein size of the whole spore protein of *Myxobolus koi* using SDS-PAGE method (sodium dodecyl sulfate polyacrilamide gel electrophoresis). The results of SDS-PAGE of the whole *Myxobolus koi* spore protein indicated the presence of proteins depicted in ribbon form on SDS-PAGE gel and obtained 6 bands of proteins with molecular weight (BM) of 68.1, 38.5, 25.6, 23, 21.7 and 18.9 kDa. These results indicate that the proteins found have a high molecular weight. According to Harlow and Lane (1998), immunogenic proteins are the proteins that have a molecular weight ranging from 20,000-100,000 Daltons. Good immunogens mostly have the molecular size of <100 kDa, while for the proteins with molecular size of <5-10 kDa are categorized as poor immunogens (Mayer, 2011). Abbas et al. (2000) suggest that a molecule has immunogenic properties when its molecule weighs more than 10 kDa. *Myxobolus koi* spore protein can also increase the immune response and koifish life from 10% to 86% and can increase their immune against *Myxobolus koi* infection (Mahasri, 2016).

Table 1 – Average types of leukocytes (%) of goldfish during research

| Duration | Treatments | Types of Leukocytes (%) | | | | |
|----------------------|----------------|-------------------------|----------|------------|------------|----------|
| | | Limfocyte | Monocyte | Neutrophil | Eosinophil | Basophil |
| Day 0 | P ₀ | 56 | 19 | 17 | 7 | 1 |
| | P ₁ | 50 | 17 | 22 | 9 | 2 |
| Day 7 | P ₀ | 55 | 20 | 17 | 7 | 1 |
| | P ₁ | 63 | 22 | 10 | 4 | 1 |
| Day 14 | P ₀ | 56 | 19 | 17 | 6 | 2 |
| | P ₁ | 72 | 20 | 5 | 2 | 1 |
| Day 28 | P ₀ | 51 | 24 | 19 | 6 | 1 |
| | P ₁ | 62 | 18 | 13 | 6 | 1 |
| Normal (Yusuf, 2016) | | 52 | 18 | 20 | 8 | 2 |

Table 2 – Average results of parameter testing of the quality of water for goldfish cultivation during the research

| Parameters | Average score for the quality of water in 30 day cultivation of the goldfish | | Normal score range (Flajšhans and Hulata, 2007) |
|------------------|------------------------------------------------------------------------------|----------------|-------------------------------------------------|
| | P ₀ (control) | P ₁ | |
| Temperature (°C) | 30 | 29 | 27-30 |
| pH | 7.8 | 7.5 | 6.5-9 |
| DO (mg/l) | 6.6 | 5.9 | >3-7 |
| Ammonia (mg/l) | 0.5 | 0.5 | 0.5-0.52 |

The immunostimulatory mechanism is if the immunostimulants enter into the body, the immunostimulants will stimulate monocytes to produce cytokines such as interleukins which will activate lymphocyte cells, which then divide into B lymphocytes and T lymphocytes. T lymphocytes in non-specific responses will produce interferons which are capable of activating performance of macrophages through the mechanism of phagocytosis in the face of parasites, bacteria, viruses, and foreign particles that are considered as antigens (Raa, 2000).

Blood is one medium as a diagnosis of health status in an organism including fish. Blood will undergo serious changes when exposed to infectious diseases. Blood tests can also be an indicator of the degree of severity of a disease experienced by the fish (Bastiawan et al, 2001). White blood cells (leukocytes) fish are part of the fish's body immune system. Factors that affect the number of leukocytes are the condition and health of the fish (Chinabut et al., 1991). According to Effendi (2003), leukocytes consist of agranulocytes (monocytes and lymphocytes) and granulocytes (heterophils, eosinophils, and basophils). Total changes and types of leukocytes can be used as indicators of certain infections that

occur in fish's body. Lymphocyte is one form of leukocytes. The percentage of lymphocytes of P1 on Days 7, 14 and 28 increased from the day before the treatment.

The increasing number of lymphocytes in the goldfish that were fed with the artificial feed + immunostimulant with whole spore protein of *Myxobolus koi* is the response of the fish's immune system as the addition of pathogens. This is in accordance with the opinion of Bastiawan et al. (2001) that the lymphocytes serve as antibodies to the body's immune system from any disease. Monocytes migrate from the blood circulation to tissues when receiving stimuli that are compatible with their receptors (Feldman et al., 2000). The results of the two treatments showed that on Days 7 and 14 of treatment P1 were the highest (artificial feed + immunostimulant) with the percentage of 22% and 20% respectively. Percentage of monocytes Days 7 and 14 of treatment P1 increased from the day before the treatment, and decreased on the Day 28. The increase is due to the existence of monocytes phagocytes pathogens (bacteria and parasites) that attack the goldfish. The condition is similar as the assertion by Ardelli and Woo (2006), that monocytes together with macrophages will phagocytate those agents that cause disease into the body. Observations of P1 (artificial feed + immunostimulant) on Days 7, 14 and 28 show that the treatment has an effect on the immune response, with the percentage of lymphocyte and monocyte was 63%, 72% and 62% respectively.

Based on the results of the growth rate of the two treatments, the treatment P1 with the whole spore protein of *Myxobolus koi* has higher daily growth rate of 5.55% compared with treatment P0 without immunotimulant which is only 1.13%. The addition of whole spore protein of *Myxobolus koi* as the immunostimulants, besides as additional nutrients for the fish, it is beneficial as the enhancer of the immune response which is able to increase the growth rate of the goldfish. This is in accordance with the study carried out by Hidayat et al (2013) that one of factors affecting the growth rate of fish is the protein content in the feed as the function of protein is to form new tissue for growth and also replace the damaged tissue.

Based on the results of the feed efficiency test of the two treatments, it showed that feed efficiency on the treatment P1 with immunostimulatory whole spore protein of *Myxobolus koi* (36.57%) is higher than the treatment P0 (23.84%). This suggests that the addition of immunostimulatory can utilize the feed consumed for growth so as to increase the value of feeding efficiency and the digestibility of the fish. This is in accordance with the opinion of Djadjasewaka (1985) who states that the efficiency of feeding is directly proportional to the increase in body weight, so the higher the value of feeding efficiency means the more efficient the fish can use the feed consumed for the growth.

In terms of survival rate (SR), the results show the highest survival rate is on the treatment P1 of 99%, while the lowest in the treatment P0 with only 60%. This is in accordance with the statement of Mahasri (2016) that whole spore protein of *Myxobolus koi* can increase immune response and survival ability of the life from 10% to 86%, and it can increase the immune system against *Myxobolus koi* infection. In addition, according to Mudjiman (2000), feed that has good nutrition is instrumental in maintaining the survival ability and accelerating the growth of the fish.

The quality of the water during the study was still suitable for the survival of the goldfish. The other environmental factors that support the survival of the goldfish are namely water temperature, pH, ammonia and the amount of oxygen dissolved in the water.

Conclusion. The conclusion of this research is that the whole spore protein of *Myxobolus koi* can be used as the immunostimulants.

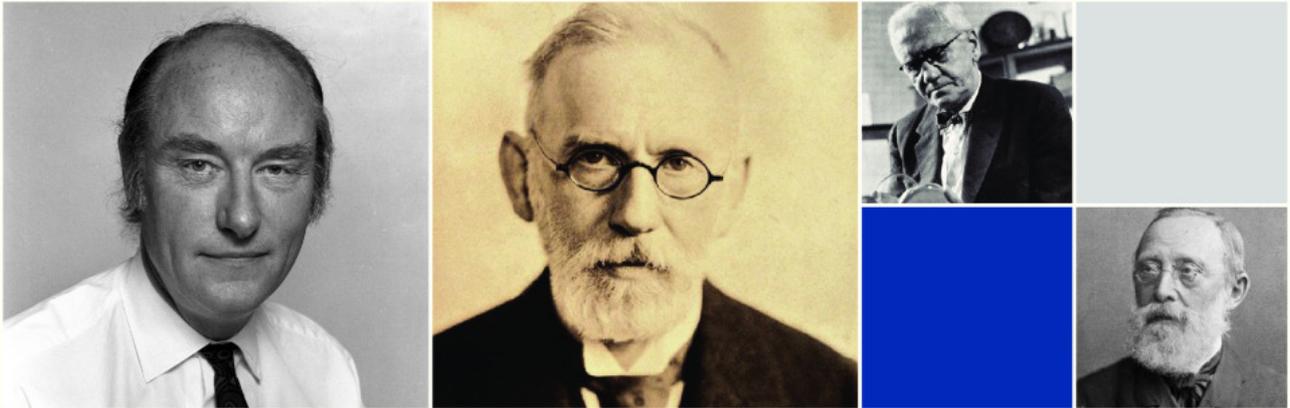
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