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ANALYSIS OF THE RICE COMMODITY SUPPLY CHAIN IN JEMBER REGENCY
OF EAST JAVA, INDONESIA

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ABSTRACT
The rice chain in Indonesia involves many actors, from farmers to consumers. However, because of the nonexistence of a direct collection system from small farmers, there are many actors to deal with and transactions that must be performed first; in the end, the results are high prices for crops. The aim of this research is to analyze the efficiency of rice distribution in Jember Regency, East Java. The utilized method was the examination of marketing margin, share margin, cost share, and profit share. The data of the calculation results showed the efficiency of each marketing channel of the commodity. From the results of the research, it was found that there were eight channels of rice distribution, and all of these channels could be said to be efficient, because the comparison of profit share with the marketing costs of each marketing agency involved in the marketing process was even and sufficiently logical.

KEY WORDS
Rice, margin, cost, profit, efficiency.

Rice has a strategic role as the primary food item of people in Indonesia, which continues the sustainability of national food stability in rural economy (Afrianto & Santosos, 2010; Darwis & Rusastra, 2016). The availability of supplies and the smooth flow of distribution became the primary reason for the government intervention in the national production and availability of rice. The national issue of the fulfillment of rice demand has been satisfied by national self-sufficiency of rice. The continuous increase in price from year to year of the primary food commodity of rice, being 14.85% for medium-quality rice and 11.57% for premium-quality rice becomes the issue that needs to be resolved at this moment (Ariani, 2007). Rice plays a strategic role in maintaining the strength of food stability, economic stability, and national political stability. The position of rice as the primary food commodity for a number of people has been irreplaceable, even now (Suryana et al., 2009); Said and Dewi (2004) explained that the development of centers of agribusiness for rice constitutes a system for which there must always be a measurement of its performance, whether internally or externally. Internal performance is analyzed based on the conditions in the agribusiness subsystem, and external performance may be analyzed based on the resulting output. The internal performance of an agribusiness system has a relationship with the development of the supply chain, which begins from rice cultivation on the field and ends with marketing activities toward consumers.

The supply chain for agricultural products is quite complex. The logistics systems of agricultural products possess certain specific characteristics and therefore require specific and different handling as well, as they are affected by production systems, the nature of the product, and consumers themselves (Yun & Kurniaswani, 2015). The weak economic competition of rice in Indonesia is caused, among others, by weak economic institutions, in particular the supply chain (Mayrowani, 2016). The institutional systems that are present in rural areas are restrained by centralistic development policies, which cause the creativity of the people not to develop and the social capital to weaken. As such, reforms in the frame of regional autonomy ought to provide chances and trust to local rural institutions to increase efficiency in managing natural resources. The agricultural supply chain in Indonesia involves many actors, from the farmers to the consumers. However, because of the nonexistence of
direct collection system from small farmers, this leads to many actors to deal with and transactions that must be performed first; the results are high prices for agricultural products (Farid, 2017; Hanafie, 2010).

Literature has explained about the supply chain of rice. As described by Garside & Asjari (2015), in general the rice supply chain network starts from the farmers as the rice producers, which are then sold to brokers in the form of dry unhusked rice, then sold to the rice milling unit to be dried and milled, and then ultimately sold to the consumers. Subroto et al. (2015) explained that the supply chain of rice could be said to be well if there are interaction and communication that occur in full and efficiently among the actors that are involved in the rice supply chain; however, some of the literature only still explains this descriptively. This research attempts to analyze the efficiency of the distribution of rice using several analysis tools, among them being marketing margin, share margin, cost share, and profit share. The data on the results of the calculations will indicate the level of efficiency of each of the marketing channel of the commodity.

METHODS OF RESEARCH

The location of the research was established intentionally with the purposive method. The selected research location was a research location with the criteria of the highest and lowest rice production based on production data from 2016. Aliyah (2017) explained that Jember Regency is one of the centers of rice and its harvest in East Java, which once had the highest rate of rice production in 2013.

Respondents were determined using the method of purposive sampling. The farmers and the agencies of rice marketing in Jember Regency became the respondents of the research. The selected respondents were composed of farmers, brokers or collectors, bulk merchants, retail merchants, and consumers. The selected farmers were composed of landowners and tillers (40 respondents), brokers or collectors (3 respondents each), bulk merchants (2 respondents), and consumers (15 respondents).

The data utilized in this research are composed of primary and secondary data. Primary data were obtained based on the results of field surveys conducted among farmer groups, farmers, merchants, and consumers using questionnaires, while secondary data were taken from the following sources:

- The regency-level department of trade to obtain data on retail prices at the consumer level and merchants, grocers, or distributors who engage in the business of the rice commodity;
- The sub-regional division of BULOG to obtain data on the Government-Established Price (HPP), partner merchants, and rice policies;
- The Department of Agriculture to obtain data on production-level prices and data on farmers or farmer groups.

Analysis was carried out on the rice distribution effectiveness in Jember Regency. The data that were analyzed consisted of results of calculations of marketing margin, share margin, cost share, and profit share. The data on the results of those calculations indicated the level of efficiency for each marketing channel of the commodity.

According to Masyrofie (1994), “To find out the marketing margin, distribution, share, and the profits of all marketing agencies that are involved to the total margin of various marketing channels, analysis of marketing margin is utilized”. The reference for the theory of marketing efficiency is the theory proposed by Tomek and Robinson (1990), who defined marketing margin as the difference in the price that consumers pay with the money received by the producing farmers. The size of the marketing margin can be calculated using the following formula:

\[ MP = P_r - P_t \]  \hspace{1cm} (1)

For one level of merchants, the marketing margin is calculated with the formula:

\[ MP = KP + BP \]  \hspace{1cm} (2)
Where: MP = Marketing Margin; \( P_c \) = Price at the consumer level, taken as the average price; \( P_p \) = Price at the producer level, taken as the average sales price; KP = Marketing Profit; BP = Marketing Cost; KP = MP – BP; BP = MP – KP.

The calculation of share margin used the following formula:

\[
Sm = \frac{\text{Mi}}{\text{M total}} \times 100\%
\]

Where: Mi = Margin for agency \( i \); M total = Total margin of all marketing agencies.

The calculation of the price share that farmers receive utilized the following formula:

\[
Sf = \frac{P_f}{P_r} \times 100\%
\]

Where: Sf = Price share received by a farmer; Pf = Price at the farmer level; Pr = Price at the retailer level.

The indicator of marketing efficiency can be measured with the following criteria:
- If the share received by a farmer is greater than the share margin of marketing, then the marketing channel is categorized as efficient;
- If the share received by a farmer is less than the share margin of marketing, then the marketing channel is categorized as inefficient.

The price share for marketing agency \( i \) is represented by:

\[
Sbi = \frac{Bi}{B\text{ total}} \times 100\%
\]

Where: Sbi = Share of marketing agency \( i \); Bi = Cost type; B total = Total cost of all marketing agencies.

The profit share for marketing agency \( i \) is represented by:

\[
Ski = \frac{Ki}{K\text{ total}} \times 100\%
\]

Where: Ski = Profit share of marketing agency \( i \); Ki = Profit of marketing agency \( i \); K total = Total profit of all marketing agencies.

Analysis of \( \pi/C \) Ratio was utilized to identify whether or not the received profits by each marketing agency has been evenly distributed. The calculation of \( \pi/C \) Ratio for producers used the following formula:

\[
\pi/C \text{ Ratio}_{\text{producer}} = \frac{\text{Sale Price}}{\text{Total Cost}}
\]

Where: Sale Price = Sale price of product by producer to merchant; Total Cost = Total production cost of producer.

The calculation of the \( \pi/C \) Ratio for merchants used the following formula:

\[
\pi/C \text{ Ratio}_{\text{merchant}} = \frac{\pi (i)}{\text{Total Cost} (i)}
\]

Where: \( \pi (i) \) = Profit received by marketing agency \( i \); Total Cost \( (i) \) = Total marketing cost of marketing agency \( i \).

If the comparison of profit share for each of the marketing agencies involved in the process is even, then the marketing system is said to be efficient. If the comparison of profit share with the marketing costs for each of the marketing agencies involved in the process is even and sufficiently logical, then the marketing system is said to be efficient.
RESULTS AND DISCUSSION

Analysis of the Efficiency Level of Distribution Channels. Analysis of the efficiency level of the distribution channels utilized margin analysis, for which the margin analysis was utilized to find out the cost share and profit share of each of the involved marketing agencies. By finding out the distribution of shares for each agency, the level of efficiency of existing channels of distribution can be determined. Different distribution channels cause differences in the total margin of each distribution channel. In addition, the effectiveness of channels can also be seen through the results of the \( \pi/C \) Ratio, which represents the profit from each expended cost. Analysis of the \( \pi/C \) Ratio was utilized to identify whether or not the profits received by each agency has been evenly distributed. If the \( \pi/C \) Ratio shows an even distribution, then the channel can be said to be efficient. Calculation of the margin was by subtracting the sale price of P1 with its producer and so forth. The results showed that there were eight rice distribution channels in Jember Regency. The following are the details of rice distribution in Jember Regency and the level of efficiency.

Channel I:

Table 1 – Calculation of Shares of Rice for Channel I

<table>
<thead>
<tr>
<th>Subject</th>
<th>Price</th>
<th>Margin</th>
<th>Cost</th>
<th>Profit</th>
<th>Share Margin (%)</th>
<th>Cost (%)</th>
<th>Profit (%)</th>
<th>( \pi/C ) Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Producer</td>
<td>4500</td>
<td>500</td>
<td>2164</td>
<td>2336</td>
<td>39.13</td>
<td>69.94</td>
<td>6.30</td>
<td>2.08</td>
</tr>
<tr>
<td>P1</td>
<td>5000</td>
<td>3800</td>
<td>20</td>
<td>4980</td>
<td>4.35</td>
<td>7.14</td>
<td>0.65</td>
<td>13.42</td>
</tr>
<tr>
<td>P2</td>
<td>8800</td>
<td>1600</td>
<td>570</td>
<td>8230</td>
<td>33.04</td>
<td>54</td>
<td>18</td>
<td>27.60</td>
</tr>
<tr>
<td>P3</td>
<td>10400</td>
<td>1100</td>
<td>160</td>
<td>10240</td>
<td>14</td>
<td>23</td>
<td>5.17</td>
<td>30.51</td>
</tr>
<tr>
<td>P4</td>
<td>11500</td>
<td>0</td>
<td>180</td>
<td>11320</td>
<td>9.57</td>
<td>16</td>
<td>6</td>
<td>0.00</td>
</tr>
</tbody>
</table>

The sequence of distribution channel I is I (farmers) – P1 (farmer group) – P2 (RMU) – P3 (major merchant) – P4 (retailer) – consumer. Farmers as the producers sell the harvested unhusked rice to the farmer group, who then sells it to the RMU (rice milling unit). The rice is then milled and unhusked at the RMU, which is then ready to be sold to the major merchant. The major merchant sells the rice in large bags to the retailer. Finally, the retailer sells the rice at a more expensive price.

In rice distribution channel I, the highest price percentage value is for the producers or farmers, being 39.13%. This is because the cost of farming that is expended by farmers to produce rice is the largest in comparison to P1 (farmer group), P2 (RMU), P3 (major merchant), and P4 (retailer). The percentage of costs expended by producers or farmers is 69.94%. In comparing P1, P2, P3, and P4, the largest percentage of price share and share margin is for P2 (RMU). The share margin and cost share for P2 are 54% and 18% respectively. The high share margin and cost share for P2 is because the cost expended by P2 (RMU) to mill the rice for the merchant is larger, compared to the merchant selling the rice without milling. Therefore, based on the share margin and cost share, channel I can be said to be efficient.

Although the price share, share margin, and cost share are the largest for P1 and P2, the largest profit is for P4 or the retailer, with 30.51%. The profit of P4 is the largest because the retailer has the least amount of costs and bears the risk of the rice taking a long time to be marketable, and the amount of rice being sold is not very much, compared to the major merchant. Next, the largest \( \pi/C \) Ratio is for P1 or farmer groups because the cost
percentage expended by P1 is the least. The \( \pi/C \) Ratio of P1 is 249.00, which means that every Rp. 1 spent by P1 will result in a profit of Rp. 249.

**Channel II:**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Price</th>
<th>Margin</th>
<th>Cost</th>
<th>Profit</th>
<th>Price (%)</th>
<th>Margin (%)</th>
<th>Cost (%)</th>
<th>Profit (%)</th>
<th>( \pi/C ) Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Producer</td>
<td>4300</td>
<td>2164</td>
<td>2136</td>
<td></td>
<td>37.39</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P1</td>
<td>4800</td>
<td>500</td>
<td>120</td>
<td>4680</td>
<td>3.76</td>
<td>4.94</td>
<td>3.76</td>
<td>12.82</td>
<td>39.00</td>
</tr>
<tr>
<td>P2</td>
<td>8600</td>
<td>3800</td>
<td>570</td>
<td>8030</td>
<td>33.04</td>
<td>53</td>
<td>17.85</td>
<td>22.00</td>
<td>14.09</td>
</tr>
<tr>
<td>P3</td>
<td>10500</td>
<td>1900</td>
<td>160</td>
<td>10340</td>
<td>16.52</td>
<td>26.39</td>
<td>5.01</td>
<td>28.32</td>
<td>64.63</td>
</tr>
<tr>
<td>P4</td>
<td>11500</td>
<td>1000</td>
<td>180</td>
<td>11320</td>
<td>9</td>
<td>13.89</td>
<td>6</td>
<td>31.01</td>
<td>62.89</td>
</tr>
</tbody>
</table>

Figure 2 – Share Margin and Cost Share of Rice for Channel II

The sequence of distribution channel II is farmers – P1 (broker) – P2 (RMU) – P3 (major merchant) – P4 (retailer) – consumer. In this distribution channel, there is a broker without a farmer group. Thus, the farmers as producers sell the harvested unhusked rice to the broker, who then sells it to the RMU. At the RMU, the rice is then milled and unhusked, which is then ready to be sold to the major merchant. The major merchant sells the rice in large bags to the retailer, and finally, the retailer sells the rice at a more expensive price.

In rice distribution channel II, the highest price percentage value is for the producers or farmers, being 37.39%. This is because the cost of farming that is expended by farmers to produce rice is the largest in comparison to P1 (broker), P2 (RMU), P3 (major merchant), and P4 (retailer). The percentage of costs expended by producers or farmers is 67.75%. In comparing P1, P2, P3, and P4, the largest price share and share margin percentage is for P2 (RMU). The share margin and cost share for P2 are respectively 53% and 17.85%. The high share margin and cost share for P2 is because the cost expended by P2 (RMU) for milling the rice is relatively larger, compared to the merchant selling the rice without milling. Therefore, based on the share margin and cost share, channel II can be said to be efficient.

Even though the price share, share margin, and cost share are the largest for P1 and P2, the largest profit, however, is for P4 or the retailer, being 31.01%. The profit of P4 is the largest because the retailer has the least amount of costs and bears the risk of the rice taking a long time to be marketable, and the amount of rice being sold is not very much, compared to the major merchant. The largest \( \pi/C \) Ratio is for P1 (broker) because the cost percentage expended by P1 is the least, with the \( \pi/C \) Ratio for P1 being 39.00, which means that every Rp. 1 spent by P1 will result in a profit of Rp. 39.00.

**Channel III:**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Price</th>
<th>Margin</th>
<th>Cost</th>
<th>Profit</th>
<th>Price (%)</th>
<th>Margin (%)</th>
<th>Cost (%)</th>
<th>Profit (%)</th>
<th>( \pi/C ) Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Producer</td>
<td>4500</td>
<td>2164</td>
<td>2336</td>
<td></td>
<td>39.13</td>
<td>67.75</td>
<td>6.54</td>
<td>2.08</td>
<td></td>
</tr>
<tr>
<td>P1</td>
<td>4800</td>
<td>300</td>
<td>120</td>
<td>4680</td>
<td>2.61</td>
<td>4.29</td>
<td>3.76</td>
<td>13.11</td>
<td>39.00</td>
</tr>
<tr>
<td>P2</td>
<td>7600</td>
<td>2900</td>
<td>570</td>
<td>7030</td>
<td>24.35</td>
<td>41</td>
<td>17.85</td>
<td>19.69</td>
<td>12.33</td>
</tr>
<tr>
<td>P3</td>
<td>10500</td>
<td>2800</td>
<td>160</td>
<td>10340</td>
<td>25.22</td>
<td>40.43</td>
<td>5.01</td>
<td>28.96</td>
<td>64.63</td>
</tr>
<tr>
<td>P4</td>
<td>11500</td>
<td>1000</td>
<td>180</td>
<td>11320</td>
<td>9</td>
<td>14.29</td>
<td>6</td>
<td>31.70</td>
<td>62.89</td>
</tr>
</tbody>
</table>
The sequence of distribution channel III is farmers – P1 (broker) – P2 (major merchant) – P3 (BULOG) – P4 (retailer (BULOG Mart)) – consumer. This distribution channel has a broker without a farmer group. Here, the farmers as producers sell the harvested unhusked rice to the broker, who then sells it in the same form to the major merchant. The major merchant then processes the rice before selling it to BULOG. BULOG sells the rice in large bags to BULOG Mart, which then sells the rice at retail at a more expensive price.

![Diagram](image)

Figure 3 – Share Margin and Cost Share of Rice for Channel III

In rice distribution channel III, the highest price percentage value is for producers or farmers, being 36.13%. This is because the cost of farming that is expended by farmers to produce rice is the largest in comparison to P1 (broker), P2 (major merchant), P3 (BULOG), and P4 (BULOG Mart). The percentage of costs expended by producers or farmers is 67.75%. In comparing P1, P2, P3, and P4, the largest price share and share margin percentage is for P2 (major merchant). The share margin and cost share for P2 are 41% and 17.85% respectively. The high share margin and cost share for P2 is because the cost expended by P2 (major merchant) required for packaging the rice is relatively larger compared to the merchant selling the rice without processing. Thus, based on the share margin and cost share, channel III can be said to be efficient.

Although the price share, share margin, and cost share are the largest for P1 and P2, the largest profit, however, is for P4 (BULOG Mart), with 31.70%. The profit of P4 is the largest because BULOG Mart has the least amount of costs and bears the risk of the rice taking a long time to be marketable, and the amount of rice being sold is not very much, compared to the major merchant. Next, the largest π/C Ratio is for P3 (BULOG) with 64.63, which means that every Rp. 1 spent by P3 will result in a profit of Rp. 64.63.

**Channel IV:**

Table 4 – Calculation of Shares of Rice for Channel IV

<table>
<thead>
<tr>
<th>Subject</th>
<th>Price</th>
<th>Margin</th>
<th>Cost</th>
<th>Profit</th>
<th>Price (%)</th>
<th>Margin (%)</th>
<th>Cost (%)</th>
<th>Profit (%)</th>
<th>π/C Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Producer</td>
<td>3800</td>
<td>2164</td>
<td>1636</td>
<td>33.04</td>
<td>67.75</td>
<td>3.90</td>
<td>1.76</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P1</td>
<td>4800</td>
<td>1000</td>
<td>120</td>
<td>4680</td>
<td>8.70</td>
<td>12.99</td>
<td>3.76</td>
<td>11.14</td>
<td>39.00</td>
</tr>
<tr>
<td>P2</td>
<td>7600</td>
<td>2800</td>
<td>570</td>
<td>7030</td>
<td>24.35</td>
<td>36</td>
<td>17.85</td>
<td>16.74</td>
<td>12.33</td>
</tr>
<tr>
<td>P3</td>
<td>8000</td>
<td>400</td>
<td>80</td>
<td>7920</td>
<td>3.48</td>
<td>5.19</td>
<td>2.50</td>
<td>18.85</td>
<td>99.00</td>
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<tr>
<td>P4</td>
<td>9500</td>
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<td>13</td>
<td>19.48</td>
<td>3</td>
<td>22.43</td>
<td>117.75</td>
</tr>
<tr>
<td>P5</td>
<td>11500</td>
<td>2000</td>
<td>180</td>
<td>11320</td>
<td>17.39</td>
<td>25.97</td>
<td>5.64</td>
<td>26.95</td>
<td>62.89</td>
</tr>
</tbody>
</table>

![Diagram](image)

Figure 4 – Share Margin and Cost Share of Rice for Channel IV

The sequence of distribution channel IV is farmers – P1 (farmer group) – P2 (broker) – P3 (RMU) – P4 (major merchant) – P5 (retailer) - consumer. In this distribution channel, the
farmers as producers sell the harvested unhusked rice to the farmer group, who then sells it in the same form to the RMU. The RMU then mills the rice, from which a broker takes the rice from the RMU and sells it to the major merchant. The major merchant sells the rice in large bags to the retailer, and finally the retailer sells the rice at a more expensive price.

In rice distribution channel IV, the highest price percentage value is for producers or farmers, being 33.04%. This is because the cost of farming that is expended by farmers to produce rice is the largest in comparison to P1 (farmer group), P2 (RMU), P3 (broker), P4 (major merchant), and P5 (retailer). The percentage of costs expended by producers or farmers is 67.75%. In comparing P1, P2, P3, P4, and P5, the largest price share and share margin percentage is for P2 (RMU). The share margin and cost share for P2 are respectively 36% and 17.85%. The high share margin and cost share for P2 is because the cost expended by P2 (RMU) for milling the rice is relatively larger, compared to the merchant selling the rice without milling. Therefore, based on the share margin and cost share, channel IV can be said to be efficient.

Even though the price share and cost share are the largest for the farmers and P1, the largest profit, however, is for P5 (retailer), being 26.95%. The profit of P5 is the largest because the retailer has the least amount of costs and bears the risk of the rice taking a long time to be marketable, and the amount of rice being sold is not very much, compared to the major merchant. The largest π/C Ratio is for P4 because the cost percentage expended by P4 is the least. The π/C Ratio for P4 is 117.75, which means that every Rp. 1 spent by P4 will result in a profit of Rp. 117.75.

**Channel V:**

<table>
<thead>
<tr>
<th>Subject</th>
<th>Price</th>
<th>Margin</th>
<th>Cost</th>
<th>Profit</th>
<th>Price (%)</th>
<th>Margin (%)</th>
<th>Cost (%)</th>
<th>Profit (%)</th>
<th>π/C Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Producer</td>
<td>4000</td>
<td>2164</td>
<td>1836</td>
<td>34.78</td>
<td>67.33</td>
<td>4.13</td>
<td>1.85</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P1</td>
<td>4700</td>
<td>700</td>
<td>120</td>
<td>4580</td>
<td>6.09</td>
<td>9.33</td>
<td>3.73</td>
<td>10.30</td>
<td>38.17</td>
</tr>
<tr>
<td>P2</td>
<td>8000</td>
<td>3300</td>
<td>570</td>
<td>7430</td>
<td>28.70</td>
<td>44</td>
<td>17.74</td>
<td>16.70</td>
<td>13.04</td>
</tr>
<tr>
<td>P3</td>
<td>9500</td>
<td>1500</td>
<td>160</td>
<td>9340</td>
<td>13.04</td>
<td>20.00</td>
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<td>11320</td>
<td>13.04</td>
<td>20.00</td>
<td>5.60</td>
<td>25.45</td>
<td>62.89</td>
</tr>
</tbody>
</table>

![Figure 5 – Share Margin and Cost Share of Rice for Channel V](image)

The sequence of distribution channel V is farmers – P1 (broker 1) – P2 (RMU) – P3 (major merchant) – P4 (broker 2) – P5 (retailer) – consumer. In this distribution channel, there are brokers without a farmer group. Here, the farmers as producers sell the harvested unhusked rice to the broker, who then sells it in the same form to the RMU. The RMU then mills the rice before selling it to the major merchant. The major merchant sells the rice in large bags to another broker, who then sells the rice to a retailer. The retailer finally sells the rice at a more expensive price.

In rice distribution channel V, the highest price percentage value is for producers or farmers, being 34.78%. This is because the cost of farming expended by farmers to produce rice is the largest in comparison to P1 (broker 1), P2 (RMU), P3 (major merchant), P4 (broker 2), and P5 (retailer). The percentage of costs expended by producers or farmers is 67.33%. In comparing P1, P2, P3, P4, and P5, the largest price share and share margin percentage is for P2 (RMU). The share margin and cost share for P2 are 44% and 17.74% respectively. The high share margin and cost share for P2 is because the cost expended by P2 (RMU) for
milling the rice is relatively larger, compared to the merchant only selling the rice without milling. Therefore, based on the share margin and cost share, channel V can be said to be efficient.

Although the price share and cost share are the largest for the farmers and P2, the largest profit, however, is for P5 (retailer), being 25.45%. The profit of P5 is the largest because the retailer has the least amount of costs and bears the risk of the rice taking a long time to be marketable, and the amount of rice being sold is not very much, compared to the major merchant. Next, the \( \pi/C \) Ratio is the largest for P4 because the cost percentage expended by P4 is the least. The \( \pi/C \) Ratio for P4 is 499, which means that every Rp. 1 spent by P4 will result in a profit of Rp. 499.

**Channel VI:**

![Figure 6 – Share Margin and Cost Share of Rice for Channel VI](image)

Table 6 – Calculation of Shares of Rice for Channel VI

<table>
<thead>
<tr>
<th>Subject</th>
<th>Price</th>
<th>Margin</th>
<th>Cost</th>
<th>Profit</th>
<th>Price (%)</th>
<th>Margin (%)</th>
<th>Cost (%)</th>
<th>Profit (%)</th>
<th>( \pi/C ) Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Producer</td>
<td>2164</td>
<td>2164</td>
<td>2336</td>
<td>39.13</td>
<td>69.71</td>
<td>7.54</td>
<td>2.08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P1</td>
<td>7600</td>
<td>3100</td>
<td>600</td>
<td>26.96</td>
<td>44.29</td>
<td>19.33</td>
<td>22.58</td>
<td>11.67</td>
<td></td>
</tr>
<tr>
<td>P2</td>
<td>10500</td>
<td>2900</td>
<td>160</td>
<td>25.22</td>
<td>41</td>
<td>5.16</td>
<td>33.36</td>
<td>64.63</td>
<td></td>
</tr>
<tr>
<td>P3</td>
<td>11500</td>
<td>1000</td>
<td>180</td>
<td>8.70</td>
<td>14.29</td>
<td>5.80</td>
<td>36.52</td>
<td>62.89</td>
<td></td>
</tr>
</tbody>
</table>

The sequence of distribution channel VI is farmers – P1 (farmer group) – P2 (major merchant) – P3 (BULOG Mart) – consumer. In this distribution channel, the farmers sell the harvested unhusked rice to the farmer group, at which the rice is processed and is then sold to the major merchant. The major merchant then sells the rice in large bags to BULOG Mart. Finally, BULOG Mart sells the rice at retail at a more expensive price.

In rice distribution channel VI, the highest price percentage value is for producers or farmers, being 39.13%. This is because the cost of farming expended by farmers to produce rice is the largest in comparison to P1 (farmer group), P2 (major merchant), and P3 (BULOG Mart). The percentage of costs expended by producers or farmers is 69.71%. In comparing P1, P2, and P3, the largest price share and share margin percentage is for P1 (farmer group). The share margin and cost share for P1 (farmer group) to process the rice are respectively 44.29% and 19.33%. The high share margin and cost share for P1 is because it requires a greater cost for processing than merchants who simply sell. Thus, based on the share margin and cost share, channel VI can be said to be efficient.

Even though the price share and cost share are the largest for the farmers and P1, the largest profit, however, is for P3 (BULOG Mart), being 36.52%. The profit of P3 is the largest because P3 (BULOG Mart) has the least amount of costs and bears the risk of the rice taking a long time to be marketable, and the amount of rice being sold is not very much, compared to the major merchant. The \( \pi/C \) Ratio is the largest for P2 (major merchant) because the cost percentage expended by P2 is the least. The \( \pi/C \) Ratio P2 is 64.63, which means that every Rp. 1 spent by P4 will result in a profit of Rp. 64.63.

The sequence of distribution channel VII is farmers – P1 (farmer group) – P2 (retailer) – consumer. In this distribution channel, the farmers sell the harvested unhusked rice to P1 (farmer group) to be processed and packaged for sale to P2 (retailer). The farmer group sells the rice in large bags to the retailer. Finally, the retailer sells the rice at a more expensive price.
Channel VII:

Table 7 – Calculation of Shares of Rice for Channel VII

<table>
<thead>
<tr>
<th>Subject</th>
<th>Price</th>
<th>Margin</th>
<th>Cost</th>
<th>Profit</th>
<th>Share</th>
<th>( \pi/C ) Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Producer</td>
<td>2164</td>
<td>2164</td>
<td>2336</td>
<td>45.92</td>
<td>73.50</td>
<td>11.59</td>
</tr>
<tr>
<td>P1</td>
<td>8800</td>
<td>4300</td>
<td>600</td>
<td>43.88</td>
<td>81.13</td>
<td>20.38</td>
</tr>
<tr>
<td>P2</td>
<td>9800</td>
<td>1000</td>
<td>180</td>
<td>10.20</td>
<td>6.11</td>
<td>47.73</td>
</tr>
</tbody>
</table>

Figure 7 – Share Margin and Cost Share of Rice for Channel VII

In rice distribution channel VII, the highest price percentage value is for producers or farmers, being 45.92%. This is because the cost of farming expended by farmers to produce rice is the largest in comparison to P1 (farmer group) and P2 (retailer). The percentage of costs expended by producers or farmers is 73.50%. In comparing P1 and P2, the largest price share and share margin percentage is for P1 (farmer group). The share margin and cost share for P1 are 43.88% and 81.13% respectively.

Although the price share and cost share are the largest for the farmers and P1, the largest profit, however, is for P2 (retailer), being 47.73%. The profit of P2 is the largest because P2 (retailer) has the least amount of costs and bears the risk of the rice taking a long time to be marketable, and the amount of rice being sold is not very much. Next, the largest \( \pi/C \) Ratio is for P2, being 53.44, which means that every Rp. 1 spent by P2 will result in a profit of Rp. 53.44.

Channel VIII:

Table 8 – Calculation of Shares of Rice for Channel VIII

<table>
<thead>
<tr>
<th>Subject</th>
<th>Price</th>
<th>Margin</th>
<th>Cost</th>
<th>Profit</th>
<th>Share</th>
<th>( \pi/C ) Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Producer</td>
<td>2164</td>
<td>2164</td>
<td>2136</td>
<td>40.95</td>
<td>70.62</td>
<td>1.99</td>
</tr>
<tr>
<td>P1</td>
<td>8800</td>
<td>4500</td>
<td>600</td>
<td>42.86</td>
<td>72.58</td>
<td>19.58</td>
</tr>
<tr>
<td>P2</td>
<td>9300</td>
<td>500</td>
<td>120</td>
<td>4.76</td>
<td>8</td>
<td>3.92</td>
</tr>
<tr>
<td>P3</td>
<td>10500</td>
<td>1200</td>
<td>180</td>
<td>11.43</td>
<td>19.35</td>
<td>5.88</td>
</tr>
</tbody>
</table>

Figure 8 – Share Margin and Cost Share of Rice for Channel VIII

The sequence of distribution channel VIII is farmers – P1 (farmer group) – P2 (broker) – P3 (retailer) – consumer. In this distribution channel, the farmers sell the harvested unhusked rice to P1 (farmer group), which is then processed and packaged in large bags before they are sold to the broker. The broker then sells the big rice bags to the retailer, and then the retailer sells the rice at a more expensive price.
In rice distribution channel VIII, the highest price percentage value is for producers or farmers, being 40.95%. This is because the cost of farming expended by farmers to produce rice is the largest in comparison to P1 (farmer group), P2 (broker), and P3 (retailer). The percentage of costs expended by producers or farmers is 70.62%. In comparing P1, P2, and P3, the largest price share and share margin percentage is for P1 (farmer group). The share margin and cost share for P1 are respectively 72.58% and 19.58%.

Although the price share and cost share are the largest for the farmers and P1, the largest profit, however, is for P3 (retailer), being 36.52%. The profit of P3 is the largest because P3 (retailer) has the least amount of costs and bears the risk of the rice taking a long time to be marketable, and the amount of rice being sold is not very much. The largest π/C Ratio is for P2, being 76.50, which means that every Rp. 1 spent by P2 will result in a profit of Rp. 76.50.

CONCLUSION

Based on the analysis of marketing channels in Jember Regency, there are eight rice distribution channels. For the commodity of rice, the channels are efficient because the price share and profit share are even at each chain. For each distribution channel, if the profit share for each distribution agency is calculated without taking into account the costs that the producers are responsible for, then the profit share becomes more even and balanced.

REFERENCES


