

SUPPLY CHAIN ANALYSIS OF RICE MARKETING ACTORS IN DUMAI CITY IN SUPPORTING URBAN FOOD SECURITY

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ABSTRACT

Dumai City is a significant economic hub in Riau Province and a vital location for food distribution. Although it's an urban area, there is still a small amount of rice produced in Dumai City. However, most of the rice supply comes from various suppliers outside the region to meet the high demand. Due to this diverse supply chain, this study aims to analyze the structure, mechanisms, and performance of the marketing in the premium rice supply chain at each level of the marketing institution. This research was conducted using a survey method among marketing actors at each level of marketing institutions selected purposively. To analyze the structure and mechanism of the rice supply chain, qualitative analysis is used. Quantitative analysis is used to analyze marketing performance in the rice supply chain. The research method used was a survey of rice marketing institutions in Dumai City, utilizing both qualitative and quantitative analysis methods. The results show that three marketing institutions are involved in marketing rice in Dumai City, each with a unique supply chain. Upon analyzing the marketing performance of the premium rice supply chain, it was found that all marketing channels utilized by wholesalers and retailers are efficient. Among these channels, channel 3, supplier-wholesaler-end consumer, has the smallest margin value, while channel 2, out-of-town distributor-traditional retailer-end consumer, has the highest profit-cost ratio value of 125.67. This marketing channel offers the lowest price for premium rice at the end consumer level, thereby ensuring greater access to food for the community and promoting urban food resilience. Among these channels, channel 2 of retailers that were out-of-town distributor-traditional retailer-end consumers had the best marketing efficiency value (0,09%) and the highest profit-cost ratio value of 125.67. Based on the results of this research, it is a challenge for the development of local rice agro-industry in creating efficient marketing performance to strengthen regional food security.

Keywords: *food security, marketing efficiency, profit-to-cost ratio, rice marketing, supply chain*

BACKGROUND

Dumai City's main focus is on its thriving industrial sector and strong secondary economy, rather than being a food production center in an urban area (Mahendra & Juniastra, 2023). The phenomenon of job opportunities is attracting people to Dumai City, increasing its population with diverse community characteristics. This rise in population leads to an increase in demand for food (Rusdiana & Maesya, 2017). However, Dumai City faces a challenge in fulfilling its food needs, particularly for staple food items, as local production falls short. As a result, Dumai City heavily relies on food sources from outside the region, making it a critical downstream destination for food. Unfortunately, the rising cost of rice is becoming a concern in Dumai City, with prices increasing from Rp 12,000 in 2021 to Rp 14,000 in 2022. This could impact the economic access of local

communities to available food, especially for those in weaker economic groups (Mun'im, 2012). Fluctuations in food prices will affect the proportion of food expenditure for the lower middle class or low household income (Yuliana et al., 2019). Research on the rice marketing chain in Aceh Province shows that prices in the market are determined by traders themselves based on the stages they go through to reach each agent in the region (Bahri et al., 2023).

It is an undeniable fact that rice is the most widely available staple food when compared to other commodities (BPS, 2023). According to the theory of household food expenditure, a significant portion of a household's income (especially for those who are less well-off) is spent on purchasing rice. However, this notion is offset by other factors (Lindawati & Saptanto, 2014). This means that having enough staple food is a top priority in household spending. When a larger portion of a household's budget is spent on food, it is classified as being vulnerable to food insecurity (Amalia & Mahmudiono, 2017). The presence of rice in urban areas of Riau Province is reliant on external supplies (Yusri et al., 2021). It is supported by Dumai's strategic position as a port city and economic center to facilitate food ingredient distribution outside the region (Widiarsih & Masyaresa, 2020). Local rice production in Dumai City has increased from 2,058,610 tons in 2020 to 122,560 tons in 2022 (BPS, 2022). This increase in production is supported by agricultural policy support by the local government (Hortikultura, 2019). However, the level of fulfillment of rice by local production is only 6.7% (BPS, 2022). Thus, 93.3% of Dumai City's rice needs are met from outside the region, namely East Java, West Java, Jakarta, Jambi, West Sumatra, South Sumatra, and North Sumatra, with various brands of rice that are widely available on the market, such as Anak Daro from West Sumatra, Annis from Jambi, Naruto from South Sumatra, Ramos from West Java, and Pandan Wangi from Central Java. Thus, there is a diversity of actors, structures, mechanisms, and performances of the rice supply chain in the City of Dumai. In its flow, the supply chain combines distribution, production, and inventory from upstream to downstream, which works well because there is a flow of information that flows from upstream to downstream and from downstream to upstream. The flow of information assists actors in making decisions regarding the purchase and sale of processed products, such as demand, forecasting, and scheduling. Financial flow is the flow of money that occurs due to transactions. Good supply chain flow includes how the flow of products, money, and information of an item can be connected to provide added value for each party involved in the supply chain.

As an urban area, Dumai City has a dependency on another region in rice fulfillment. On the other hand, Dumai has rice marketing actors from the producer, wholesaler, agro-industry, and retail trader levels. The trend of increasing rice production in Dumai City and the existence of an agro-industry that processes local rice into branded packaged rice shows good performance in marketing Dumai rice so that Dumai has the opportunity to increase the subsistence level of rice and reduce dependence on rice supplies from outside the region. Information on the flow of goods (procurement of food products), the flow of information, and the flow of finance are the important thing that needs to be analyzed to identify the pattern of marketing of the main food commodities, which are an illustration of indicators of availability and access to food so that they can be considered in formulating adequate policies in the framework of supporting regional food security.

Based on the formulation of the problem, the research purposes are as follows: (1) to analyze the structure of actors and mechanisms in the rice supply chain in Dumai City, and (2) to analyze marketing performance in the supply chain of rice commodities in Dumai City. The novelty of this research is that it describes the mechanism and performance of urban rice marketing which has various rice actors at the producer, agro-industry, and trader levels so that it can be used as material

for consideration on how to manage local rice agro-industry with efficient marketing performance to support regional food security. Many actors analyze about rice supply chain. (Munandar et al., 2020) showed that structure and actor activity in the rice supply chain in Aceh Timur flows from local producers to local rice agroindustries and sold to local wholesalers and retailers to meet local end consumer needs. Sufiyan et al. (2019) showed that attributes analysis both of food supply chain management and nonfood supply chain management focussed on activities and coordination approach that describes flows of goods and information from the farm to the end customer. However, according to Aji (2020) there was limited study linking the concept of food security and managing an effective agricultural supply chain as a sustainable solution for food availability and food access. Thus, the study of supply chain analysis based on marketing performance is needed to analyze the performance of efficient marketing indicators that support food availability and food access.

RESEARCH METHODS

From March to June 2023, a research study was conducted in Dumai City at various rice downstream centers, including the central market/wholesale market, wholesale rice centers, and rice retailers and producers. The focus of the study was on West Dumai District and East Dumai District, as these two districts have the highest population density and a representative distribution of each rice marketing agency. The research respondents were chosen through purposive sampling, ensuring representation at every marketing agency level. The study population consisted of rice marketers in Dumai City, including producers, collectors, agroindustry workers, and retail traders. Additional sampling methods, such as snowball sampling and tracking, were used to determine marketer respondents for the research on supply chain analysis of food commodities and proportional random sampling (Affandi & Handayani, 2020; Nurhuda et al., 2017). The method used for marketing agency respondents used the snowball sampling method, namely a sample determination technique that is initially small, then enlarged; if the data felt by the first respondent is lacking, then the next respondent would look for complete data (Sugiyono, 2018). The snowball sampling method was used to find information by interviewing marketing agencies involved in existing marketing channels. Snowball sampling and tracking methods were used at the retailer's level to choose local rice wholesalers and stall retail traders. After conducting a preliminary survey, the distribution of marketers who became research respondents was compiled: three producers, four wholesalers, eight traditional market retailers, and six stall retail traders based on criteria producers with highest production, local wholesalers, rice retailers in main market and stall retail traders was traders which only specialize in selling rice.

The research method is a survey method on selected respondents. Research that analyzes supply chains generally uses a qualitative descriptive approach (Situmorang, 2021). The data collected was primary data about marketing actors, information on goods, money, and information flow of rice, and indicators that create marketing performance such as selling price and marketing cost obtained by using several data collection methods, namely interviews with questionnaires tools. Data obtained from respondents through interviews and filling out the questionnaire were then tabulated. The results of this tabulation were the data used to analyze actors and supply chain structures, supply chain mechanisms, and rice supply chain performance.

The data analysis method consisted of a qualitative descriptive analysis to analyze the structure of actors and the mechanism of the Dumai City rice supply chain. The qualitative descriptive

analysis aims to identify the marketing actors involved, relationship patterns, and mechanisms for the flow of goods, money, and information in the rice supply chain. In contrast, marketing performance in the supply chain is analyzed descriptively and quantitatively. The marketing performance indicators in the supply chain analyzed are margins, marketing efficiency, and the value of the profit-to-cost ratio (Putri et al., 2018). Margins and marketing margin percentages show the difference and comparison of the selling price at the producer level with the purchase price at the end consumer level (Putri et al., 2018). Marketing efficiency compares marketing costs with the final product value or the purchase price at the end consumer level (Sudana, 2019). Meanwhile, the profit-to-cost ratio compares profits to marketing costs (Putri et al., 2018). The limitation of this study was that supply chain analysis at the wholesale and retail level began at the supplier level because the existence of producers cannot be tracked. Margin calculations and marketing efficiency, as well as the profit-to-cost ratio, which is analyzed descriptively and quantitatively, are obtained using the following formula from Jumiati et al. (2013), Fatmawati & Zulham (2019), and Riandi et al. (2018).

Marketing Margin

$$Mmpl = Ps - Pb$$

Information:

Mmpl : Marketing margin at the marketing agency level

Ps : Selling price at each level of marketing agency

Pb : Purchasing price at each level of marketing agency

Marketing Efficiency

$$Eps = \frac{B}{Hb} \times 100$$

Information:

Eps : Marketing efficiency

B : Marketing costs (IDR)

Hb : Purchasing Price (IDR)

Criteria:

Eps < 5% efficient

Eps > 5% inefficient

Profit-to-Cost Ratio

$$Pt = \text{Profit/Marketing Costs}$$

RESULT AND DISCUSSION

Analysis of Actor Structure and Mechanism of Rice Supply Chain

The structure of actors in the supply chain describes the marketing actors involved and the pattern of relationships between marketing actors in a unified flow of goods, financial flows, and information flows from upstream to downstream (Husnarti & Handayani, 2021). In the marketing of agricultural products, at least three main elements must be considered, namely product, price, and distribution, which are interrelated (Wijaya & Tanjung, 2022). Rice marketing actors in Dumai City consist of several marketing institutions, namely producers, wholesalers, and retailers (Husnarti & Handayani, 2021). Figure 1 describes the structure of actors in the rice supply chain carried out by rice producers in Dumai City. Rice producers in Dumai City use primary marketing channels, namely direct marketing channels from producers to end consumers (Oktavia, 2016; Aena et al., 2019). Dumai city's rice harvest area is only 2,928 ha and rice production were 3,710 tonnes (Riau in Figures, 2022) illustrates the small level of urban rice production so that this amount cannot yet reach urban marketing areas and is only sold from producers to final consumers around the production area.

The rice supply chain of Dumai City starts with support for production facilities in the form of seeds from the Department of Agriculture to stimulate an increase in rice production. Paddy processing into rice is carried out by rice-producing farmers who also carry out agroindustry activities namely storing grain and rice, processing unhulled rice into rice, and packing rice into 5 and 10 kg sacks (Udin et al., 2015). Thus, the mechanism in this supply chain is the flow of goods in the form of seed assistance of 10 kg from the Department of Agriculture to farmers as well as the reciprocal flow of information between farmers and the Department of Agriculture. Farmers also buy other production inputs such as rice seeds, pesticides, fertilizers, and agricultural tools from production input kiosks so that there is a flow of goods from production input kiosks to farmers, a flow of money from farmers to input production kiosks, and a reciprocal flow of information between farmers and input kiosks. Farmers process grain into rice and sell it directly to end consumers around the production area so that there is a flow of goods from farmers to end consumers, a flow of money from end consumers to farmers, and a reciprocal flow of information between farmers and end consumers (Palupi et al., 2020).

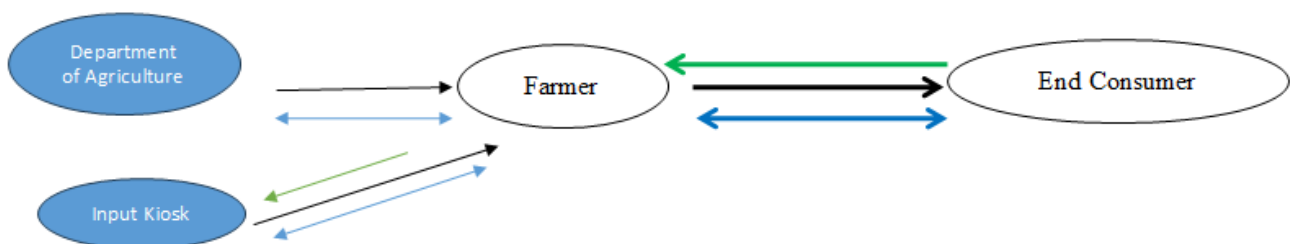


Figure 1. Rice Supply Chain at the Producer Level

The structure of actors and the mechanism of the rice supply chain to wholesalers is explained in Figure 2. In marketing channel 1, there is a flow of goods in branded packaged rice from upstream to downstream, namely suppliers - wholesalers - retailers in traditional markets - retailers in stalls - and end consumers. Meanwhile, money flows downstream to upstream from end consumers, retail traders, traditional retailers, wholesalers, and suppliers outside the region. The flow of information moves back and forth between marketing actors on the marketing channels of suppliers - wholesalers

- retailers in traditional markets - retailers in stalls - and end consumers. The selection of marketing channels is closely related to the role of each mediator (actor) involved in increasing distribution efficiency in the marketing process (Wijaya & Tanjung, 2022). As an urban area that was not a rice producer, most suppliers of local rice wholesalers originated from other regions such as Palembang, Lampung, North Sumatra, West Sumatra, and West Java so that rice flows from outside the area to the city of Dumai, while money flows from Dumai City to the outside area of Dumai City. That indicates the dependency of Dumai City to another region in the fulfillment of staple foods. On the other hand, Dumai has an increasing trend of rice production that needs support from local rice has the potential to be developed as a rice agro-industry that can meet local rice needs and improve the welfare of rice producers in the city of Dumai.

In the second marketing channel, the flow of goods moves from upstream to downstream, namely from suppliers, wholesalers, traditional retailers, and end consumers. The money flow moves downstream to upstream from the end consumer - traditional retailer - wholesaler - supplier outside the region. In contrast, the flow of information moves back and forth between marketing actors involved in the marketing channel. In the third marketing channel, the flow of goods moves from upstream to downstream from suppliers - wholesalers - end consumers, including household consumers and industrial consumers, and the flow of money moves from downstream to upstream, namely end consumers - wholesalers - suppliers. In contrast, information flows reciprocally between marketers on the third marketing channel. The study results from Sima & Simamora (2023) show that the supply chain in Kebumen Village, Banyubiru District, Semarang Regency could be more efficient, namely farmers - collectors - millers - wholesalers - consumers. Supply chain effectiveness and efficiency must be considered for business actors starting from producers. The need for effective and efficient supply chain management is very important because it is increasingly recognized that competition does not only occur between stakeholders but also between supply chains (Kot, 2018; Pathak et al., 2019). Daneshvar et al. (2020) added that supply chain management is very important and influences business performance. A factor influencing marketing efficiency is the relationship between suppliers and large and small traders (Soares et al., 2012). The accuracy of supplier selection is a selection process to find the right price, quality, and quantity (Mavi et al., 2016).

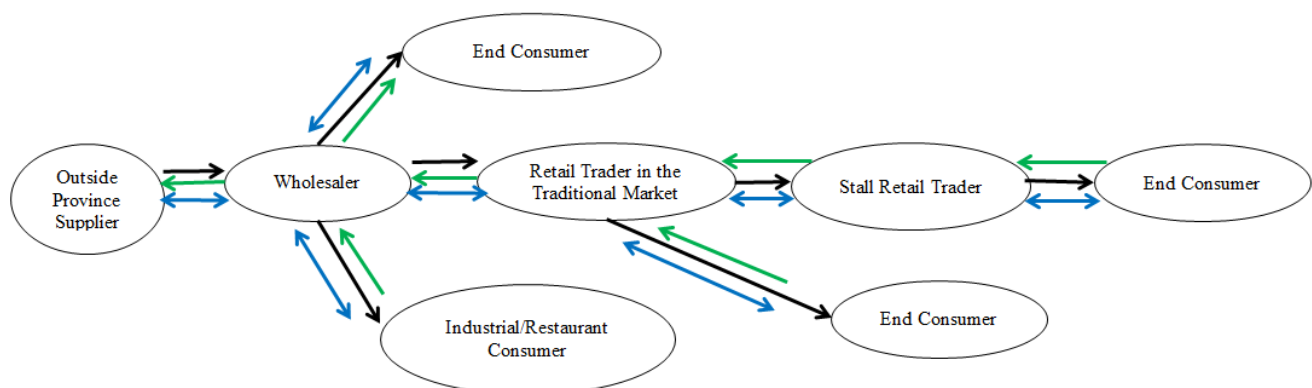


Figure 2. Rice Supply Chain at the Wholesaler Level

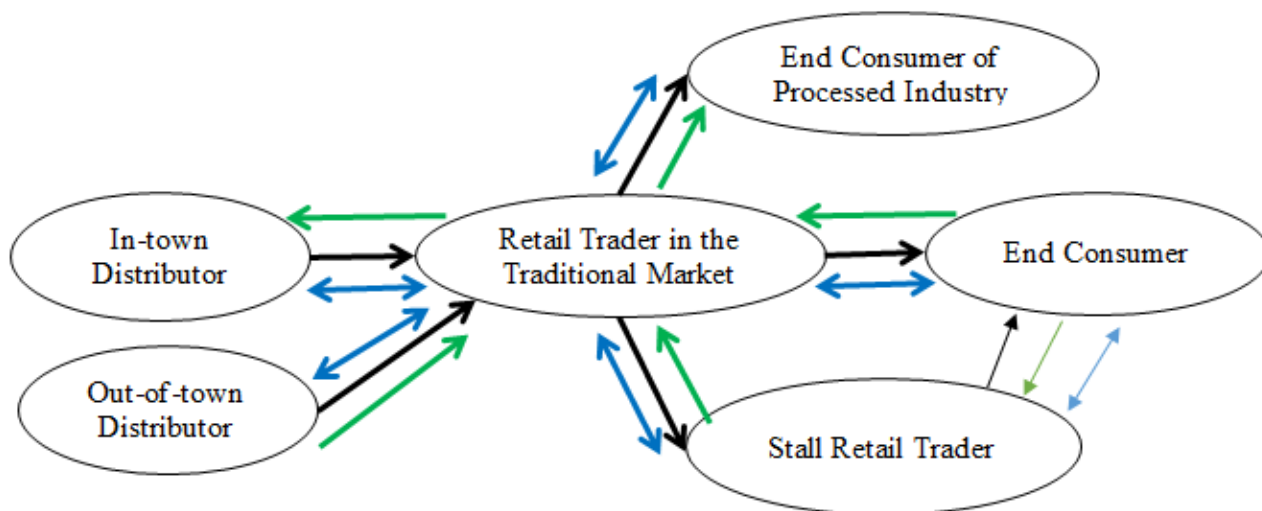


Figure 3. Rice Supply Chain at Retail Trader Level

Information:

→ = Goods Flow

← = Money Flow

↔ = Information Flow

There are two types of marketing channels for retail traders. Likewise with wholesalers, in both types of marketing channels at the retailer level, it is known that rice suppliers come from outside the region. The choice of retail traders to supply rice from outside the region, apart from limited local production, is the low marketing costs as an implication of retail traders no longer incurring costs for packaging and transportation as the physical function of marketing has been carried out at the supplier level from outside the region.

In marketing channel 1, the supply chain mechanism is the flow of goods from upstream to downstream, namely distributors from within the city (wholesalers) and suppliers from outside the city - retailers in traditional markets - retail stall traders, and industrial consumers - end consumers. The flow of money moves from downstream to upstream, namely end consumers - stall trader industrial consumers - retail traders in traditional markets - distributors in the city (wholesalers), and suppliers outside the city. Information flows back and forth between the marketing actors involved (Wuryantoro & Candra, 2022). Meanwhile, in the second marketing channel, the flow of goods moves from upstream to downstream, namely traditional market retailers and distributors. The money flow moves downstream to upstream, namely end consumers - traditional market retailers-distributors. Furthermore, information flows reciprocally between marketing actors involved in the marketing channel. Supply chain activities involving producers to end consumers are influenced by the number of institutions that can affect the cost in the supply chain channel (Saragih et al., 2017). According to Wuryantoro & Candra (2022) the flow of rice supply to the end consumer starts from upstream to downstream, downstream to upstream money flows are involved in this flow, including farmers, grain collectors, rice traders at the milling level, and wholesalers, while the flow of information reciprocal movement which is divided into two kinds, namely the flow of information that flows horizontally and the flow of information that flows vertically. In addition, in Lampung Province, the more efficient

marketing channel for organic rice is from farmers, farmers' groups, retailers, and then consumers (Affandi & Handayani, 2020). The shortest channel is the most efficient (Putri et al., 2020).

Analysis of Marketing Performance in Rice Producers

The marketing channel for marketing actors, namely rice producers, is the primary marketing channel, namely direct marketing from producers to end consumers. Farmers sell field rice to end consumers around the West Dumai and East Dumai Districts for Rp 13,000/kg. This direct marketing system does not have intermediaries in marketing rice, so this marketing channel does not have marketing margins and has 100% of the farmer's share (Mulyani et al., 2017). The amount of production is small so the rice produced by local farmers is only enough to meet the needs of farmer households and is sold directly in small quantities to end consumers around the production area. The farmer's role as a producer, agroindustry, and seller is to shorten urban rice marketing channels and optimize the farmer's share.

Analysis of Marketing Performance at Wholesalers and Retailers of Premium Rice

Marketing performance in the supply chain of wholesalers and retailers with margin indicators and marketing efficiency and the profit-to-cost ratio is formed from selling prices at the supplier level, purchasing prices at the end consumer level, total marketing costs, and marketing profits. Margin size and marketing efficiency describe how efficient a marketing channel is in the supply chain, while the profit-to-cost ratio describes the profit received by marketers for marketing activities carried out (Riandi et al., 2018). Margin values that are getting smaller or close to zero and efficiency values that are <5% indicate an efficient marketing channel. While the value of a good profit-cost ratio is if the value of $R/C > 1$. According to Soekartawi (2000) in Lestari et al. (2021), R/C decision-making criteria are $R/C > 1$ is profitable, if < 1 is suffer a loss and if $R/C = 0$, this is a break event.

Based on Table 1, information is obtained that the price of premium rice at the supplier level obtained by wholesalers is lower than retailers. Prices at the end consumer level range between Rp 14,000-16,000 per kg. Marketing costs at the wholesaler level are higher than retail traders because wholesalers carry out packaging functions, namely repackaging large sacks of rice into 5-10 kg sizes according to the needs of final consumers. Meanwhile, retail traders sell rice that has been packaged by suppliers from outside the region in various sizes that are required by end consumers so that they do not incur packaging costs. This has implications for the value of marketing efficiency, profit levels, and profit-to-cost ratio.

Price differences at the end consumer level are influenced by the short length of marketing channels and marketing costs at each level of marketing actors (Hasanah et al., 2017). The marketing costs in the marketing channels adopted by wholesalers are greater than those in the marketing channels at the retail level. Thus, these conditions have implications for differences in profits, margins, and marketing efficiency, as well as the value of the profit-to-cost ratio. The smallest margin percentage is found in the three wholesaler channels: the supplier-wholesaler-end consumer. In this channel, the end consumers, namely household and industrial consumers, buy rice directly from wholesalers to get a small price difference from the supplier's price. Short marketing channels will produce small marketing margins so that the marketing channels are efficient (Hikmah & Purnomo, 2017). Based on the value of marketing efficiency, all marketing channels in the Dumai City rice supply chain are classified as efficient because they have a value of $< 5\%$ (Riandi et al., 2018). Meanwhile, the smallest marketing efficiency value and the highest profit-cost ratio was found in

marketing channel 2, which was taken by retail traders, namely distributors outside the city - traditional retailers - end consumers, which reached 0.09 % for marketing efficiency and 125.67 % for profit to cost ratio as a marketing performance indicator. It indicates the high profit earned by marketers as a result of their marketing activities. The indicators that determine marketing profits are marketing margins and marketing costs (Riswandi & Oktariza, 2015). Efficient marketing performance will support consumer food access by providing affordable purchase prices at the end-consumer level and encouraging the performance of marketers in supporting regional food availability, thereby strengthening food security in urban areas (Baladina et al., 2017).

Table 1. Rice Marketing Performance Indicator

Marketing Channel	Price in Supplier	Price in Consumer	Total Marketing Cost	Profit	Marketing Margin	% Marketing Margin	Marketing Efficiency	Profit to Cost Ratio
Wholesaler 1	12,500	16,000	115	985	3,500	21.88	0.72	8.57
Wholesaler 2	12,500	15,000	100	2,400	2,500	16.67	0.67	24.00
Wholesaler 3	12,500	14,000	50	1,450	1,500	10.71	0.36	29.00
Retailer 1	13,500	15,000	50	2,850	1,500	10.00	0.33	57.00
Retailer 2	13,500	16,000	15	1,885	2,500	15.63	0.09	125.67

CONCLUSION AND SUGGESTION

In rice marketing in Dumai City, there are three marketing agencies involved, namely producers, wholesalers, and retailers, with their respective supply chain mechanisms based on the type of marketing channel adopted. Based on the analysis of marketing performance in the supply chain of premium rice, it is known that all marketing channels used by wholesalers and retailers are efficient, with the smallest marketing efficiency and the highest profit-cost ratio, channel two of the retailer is the out-of-town distributor - traditional retailer - end consumer. This condition illustrates that the performance of urban rice marketing in the city of Dumai is already running well but is completely dependent on outside the region. Government policy support in increasing rice production and capital facilities for rice farmer groups to process their rice into branded packaged rice in local rice agro-industry platforms are important to increase the rice subsistence level in Dumai City and also local farmers' welfare by full farmer's share.

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REFERENCES

- Aena, N., Rahim, A., & Ma'ruf, M. I. (2019). Analisis Margin Pemasaran Produksi Petani Padi di Kecamatan Belawa Kabupaten Wajo.
- Affandi, M. I., & Handayani, S. (2020). Marketing Efficiency of Organic Rice in Lampung Province. *Journal of Physics: Conference Series*, 1500(1). <https://doi.org/10.1088/1742-6596/1500/1/012063>

- Aji, J. M. M. (2020). Linking Supply Chain Management and Food Security: A Concept of Building Sustainable Competitive Advantage of Agribusiness in Developing Economies. *E3S Web of Conferences*, 142. <https://doi.org/10.1051/e3sconf/202014206005>
- Amalia, I. N., & Mahmudiono, T. (2017). Hubungan Pendapatan, Total Pengeluaran, Proporsi Pengeluaran Pangan dengan Status Ketahanan Rumah Tangga Petani Gurem (Studi di Desa Nogosari Kecamatan Rambipuji Kabupaten Jember). *Amerta Nutrition*, 1(2), 143. <https://doi.org/10.20473/amnt.v1i2.6237>
- Bahri, T. S., Manyamsari, I., Kurniawan, D., & Farabi, A. Z. (2023). The Marketing Chain Of Rice Production in Aceh Province. *Agrisocionomics: Jurnal Sosial Ekonomi Pertanian*, 7(2), 407–415.
- Baladina, N., Anindita, R., & Setiawan, B. (2017). Penguatan ketahanan pangan nasional melalui strategi perbaikan efisiensi pemasaran hasil pertanian. *SEPA: Jurnal Sosial Ekonomi Pertanian Dan Agribisnis*, 11(1), 55. <https://doi.org/10.20961/sepa.v11i1.14146>
- BPS. (2022). Kota Dumai Dalam Angka Tahun 2022. Badan Pusat Statistika Kota Dumai.
- BPS. (2023). Rata-rata Konsumsi Perkapita Seminggu Menurut Komoditi Makanan dan Golongan Pengeluaran per Kapita Seminggu, 2018-2022. <https://www.bps.go.id/statistictable/2021/08/10/2165/rata-rata-konsumsi-dan-pengeluaran-perkapita-seminggu-menurut-komoditi-makanan-dan-golongan-pengeluaran-per-kapita-seminggu-di-provinsi-jawa-timur-2018-2022.html>
- Daneshvar, M., Razavi Hajiagha, S. H., Tupènaîtè, L., & Khoshkheslat, F. (2020). Effective factors of implementing efficient supply chain strategy on supply chain performance. *Technological and Economic Development of Economy*, 26(4), 947–969. <https://doi.org/10.3846/tede.2020.12827>
- Fatmawati, F., & Zulham, Z. (2019). Analisis Margin Dan Efisiensi Saluran Pemasaran Petani Jagung (*Zea mays*) Di Desa Suka Makmur Kabupaten Pohuwato Provinsi Gorontalo. *Gorontalo Agriculture Technology Journal*, 2(1), 19. <https://doi.org/10.32662/gatj.v2i1.488>
- Hasanah, L., Suryadi, U., & Widhijanto, W. (2017). Analisis saluran distribusi dan margin pemasaran telur itik di kabupaten situbondo. *Jurnal Ilmu Peternakan Terapan*, 1(1), 25–30.
- Hikmah, & Purnomo, H. A. (2017). Saluran , margin dan efisiensi pemasaran rumput laut di sentra kawasan minapolitan kabupaten sumbawa. 021, 61–69.
- Hortikultura, D. (2019). Rencana strategis.
- Husnarti, H., & Handayani, R. (2021). Analisis Rantai Pasok dan Peran Lembaga yang Terlibat dalam Pemasaran Pepaya di Kecamatan Payakumbuh Utara Kota Payakumbuh. *Jurnal Ekonomi Pertanian Dan Agribisnis*, 5(2), 433–441. <https://doi.org/10.21776/ub.jepa.2021.005.02.13>
- Jumiati, E., Darwanto, Dwidjono Hadi Hartono, S., & Masyhuri, M. (2013). Analisis Saluran Pemasaran dan Marjin Pemasaran Kelapa Dalam di Daerah perbatasan Kalimantan Timur. *Agrifor*, XII(1), 1–10.
- Kot, S. (2018). Sustainable supply chain management in small and medium enterprises. *Sustainability (Switzerland)*, 10(4), 1–19. <https://doi.org/10.3390/su10041143>
- Lestari, D. A. H., Murniati, K., & Faviana, E. (2021). Business and Marketing Mix Analysis of Bacang Food Industry Through Conventional and Online Marketing (Case: El Shaddai Food Small Industry). *Jurnal Manajemen Dan Agribisnis*, 18(3), 283–294. <https://doi.org/10.17358/jma.18.3.283>
- Lindawati, & Saptanto, S. (2014). Analisis Tingkat Kemiskinan dan Ketahanan Pangan berdasarkan Tingkat Pengeluaran Konsumsi pada Rumah Tangga Pembudidaya Ikan. *Jurnal Sosial Ekonomi, Kelautan, Dan Perikanan*, 9(2), 195–206. <http://ejournal-balitbang.kkp.go.id/index.php/sosek/article/view/1221/1118>
- Mahendra, I. M. A., & Juniastra, I. M. (2023). Strategi Perencanaan Kawasan Industri dalam Tata Ruang Perkotaan. *Vastuwidya*, 6(1), 45–54.
- Mavi, R. K., Goh, M., & Mavi, N. K. (2016). Supplier Selection with Shannon Entropy and Fuzzy

- TOPSIS in the Context of Supply Chain Risk Management. *Procedia - Social and Behavioral Sciences*, 235(2016), 216–225. <https://doi.org/10.1016/j.sbspro.2016.11.017>
- Mulyani, A., Nursyamsi, D., & Syakir, M. (2017). Strategi Pemanfaatan Sumberdaya Lahan untuk Pencapaian Swasembada Beras Berkelanjutan. *Jurnal Sumberdaya Lahan*, 11(1). <https://doi.org/10.2018/jSDL.v11i1.8187>
- Mun'im, A. (2012). Analisis Pengaruh Faktor Ketersediaan, akses, dan Penyerapan pangan terhadap Ketahanan Pangan. *Jurnal Agro Ekonomi*, 6(2), 41–58.
- Munandar, M. A., Irfan, I., & Jaya, R. (2020). Analisis Struktur dan Nilai Tambah Pada Rantai Pasok Beras di Kabupaten Aceh Timur. *Jurnal Teknologi Dan Industri Pertanian Indonesia*, 12(2), 49–56. <https://doi.org/10.17969/jtipi.v12i2.16776>
- Nurhuda, L., Setiawan, B., & Andriani, D. R. (2017). Analisis Manajemen Rantai Pasok Kentang (*Solanum Tuberosum L.*) di Desa Ngadas, Kecamatan Poncokusumo, Kabupaten Malang. *Jurnal Ekonomi Pertanian Dan Agribisnis (JEPA)*, 1(2), 1–7.
- Oktavia, F. (2016). Upaya Komunikasi Interpersonal Kepala Desa Borneo Sejahtera Dengan Masyarakat Desa Long Lunuk. *Ilmu Komunikasi*, 4(1), 239–253. [https://ejournal.ilkom.fisip-unmul.ac.id/site/wp-content/uploads/2016/03/Jurnal_Fenny_Oktavian_\(03-02-16-08-53-37\).pdf](https://ejournal.ilkom.fisip-unmul.ac.id/site/wp-content/uploads/2016/03/Jurnal_Fenny_Oktavian_(03-02-16-08-53-37).pdf)
- Palupi, A., Priyanto, S. H., & Sunaryanto, L. T. (2020). Dinamika rantai pasok beras di kecamatan bansari kabupaten temanggung. *Jurnal AGRISEP: Kajian Masalah Sosial Ekonomi Pertanian Dan Agribisnis*, 19(2), 361–374. <https://doi.org/10.31186/jagrisep.19.2.361-374>
- Pathak, V. K., Garg, D., & Agarwal, A. (2019). Analyzing problems and optimization of supply chain in different industries using SAW and TOPSIS methods. *IOP Conference Series: Materials Science and Engineering*, 691(1). <https://doi.org/10.1088/1757-899X/691/1/012073>
- Putri, D. D. A., Susrusa, K. B., & Arisenna, G. M. K. (2020). Marketing System of “Gula Pasir” Snake Fruit In Bebandem District, Karangasem Regency. *Agrisocionomics: Jurnal Sosial Ekonomi Pertanian*, 4(2), 255–265.
- Putri, R. K., Nurmawati, R., & Burhanuddin, B. (2018). Analisis efisiensi dan faktor yang memengaruhi pilihan saluran pemasaran. *Mix: jurnal ilmiah manajemen*, 8(1), 109. <https://doi.org/10.22441/mix.2018.v8i1.007>
- Riandi, R., Batubara, M. M., & Iskandar, S. (2018). Analisis efisiensi pemasaran udang windu (*penaeus monodon*) di desa sungai lumpur kecamatan cengal kabupaten ogan komering ilir. *Societa: Jurnal Ilmu-Ilmu Agribisnis*, 6(2), 81. <https://doi.org/10.32502/jsc.v6i2.822>
- Riswandi, D. I., & Oktariza, W. (2015). Analisis Margin dan Efisiensi Pemasaran Ikan Bandeng dan Ikan Tongkol di DKI Jakarta (Analysis Marketing Margin and Efficiency of Milkfish and Mackarel Tuna Fish at DKI Jakarta). *Jurnal Sains Terapan*, 5(1), 60–73. <https://doi.org/10.29244/jstsv.5.1.60-73>
- Rusdiana, S., & Maesya, A. (2017). Pertumbuhan ekonomi dan kebutuhan pangan di indonesia. *Agriekonomika*, 6(1). <https://doi.org/10.21107/agriekonomika.v6i1.1795>
- Saragih, A. E., Tinaprilla, N., & Rifin, A. (2017). Rantai Pasok Produk Beras di Kecamatan Cibeber, Kabupaten Cianjur. *Jurnal Manajemen Dan Agribisnis*. <https://doi.org/10.17358/jma.14.3.218>
- Sima, A., & Simamora, L. (2023). Analisis Rantai Pasok dan Efisiensi Pemasaran Beras di Kabupaten Semarang, Provinsi Jawa Tengah. *Jurnal Manajemen Agribisnis*, 11(1), 19–28.
- Situmorang, A. B. (2021). Analisis Rantai Pasok (Supply chain) dan Rantai Nilai (Value chain) Komoditi Beras Ketan (*Oryza sativa var. glutinosa*) (Kasus : Desa Melati II, Kecamatan Perbaungan, Kabupaten Serdang Bedagai).
- Soares, G., Bortoluzzo, A. B., & Barros, H. M. (2012). Determinants of the Choice of Marketing Channels By Corporate Clients: an Analysis of the Information Technology Sector. *Journal of Information Systems and Technology Management*, 9(3). <https://doi.org/10.4301/s1807-17752012000300005>
- Sudana, I. W. (2019). Analisis Efisiensi Pemasaran Ikan Teri Segar Hasil Tangkapan Nelayan Di

- Desa Sanggalangit Kabupaten Buleleng. *Jurnal Pendidikan Ekonomi*, 11(2), 637–648.
- Sufiyan, M., Haleem, A., Khan, S., & Khan, M. I. (2019). Analyzing attributes of food supply chain management: A comparative study. In *Lecture Notes in Mechanical Engineering (Issue April)*. Springer Singapore. https://doi.org/10.1007/978-981-13-6412-9_50
- Sugiyono. (2018). *Metode Penelitian Kuantitatif*. CV. Alfabeta.
- Udin, F., Bueno, A., & Halid, H. (2015). Investment and milling technology selection of paddy agroindustry using the fuzzy approach, a case study at Cianjur district. *Jurnal Teknologi Industri Pertanian*, 25(1), 23–34.
- Widiarsih, D., & Masyaresa, A. (2020). Analisis Sektor Ekonomi Unggulan Kota Dumai Tahun 2014–2018. *EKOPEM | Jurnal Ekonomi Pembangunan*, 5(1), 2014–2018.
- Wijaya, O., & Tanjung, S. G. (2022). Pola Pemasaran Beras di Kabupaten Grobogan. *Jurnal Agribisnis Indonesia*, 10(2), 325–334. <https://doi.org/10.29244/jai.2022.10.2.325-334>
- Wuryantoro, W., & Candra, A. (2022). Analisis Rantai Nilai Dan Efisiensi Pemasaran Beras di Kabupaten Lombok Barat. *JURNAL SOSIAL EKONOMI DAN HUMANIORA*, 8(3), 347–354. <https://doi.org/10.29303/jseh.v8i3.113>
- Yuliana, R., Harianto, N., Hartoyo, S., & Firdaus, M. (2019). Dampak Perubahan Harga Pangan terhadap Tingkat Kesejahteraan Rumah Tangga di Indonesia. *Jurnal Agro Ekonomi*, 37(1), 25. <https://doi.org/10.21082/jae.v37n1.2019.25-45>
- Yusri, J., Septya, F., & Andriani, Y. (2021). Studi Pola Distribusi dan Margin Pemasaran pada Beras Kemasan Best Seller di Kota Pekanbaru, Riau, Indonesia. *Agro Bali : Agricultural Journal*, 4(3), 438–446. <https://doi.org/10.37637/ab.v4i3.789>