Optimizing the Role of Intermediaries in Agricultural Market Share

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Abstract

Intermediaries have an important role in the value chain of agricultural products, especially Indramayu mango *(magnivera indica L.*). The use of marketing 4.0 integrates both offline and online activities and can help carry out intermediary functions efficiently and effectively. This research aims to increase the market share of Indramayu mangoes by utilizing marketing 4.0 by intermediaries. This field research with a qualitative approach and data were retrieved through observation and deep interviews with farmers, intermediaries, derivative product entrepreneurs, and government agencies related to mango trading in Indramayu. Data validation is carried out by confirming the results of obtaining primary data with secondary data. Intermediaries play a core role in connecting consumers with producers. Intermediaries who implement marketing 4.0 will foster trust in the mango value chain to increase market share. A mango business that is run fairly will increase the confidence of producers and consumers so that market share increases.

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Keywords: Value chain, Intermediaries, Agricultural products, Marketing 4.0, Field research, Mango trading, Indonesia.

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Introduction

Intermediaries have the main function in agricultural products, especially in Indramayu mango value chain, which is to connect consumers and farmers because farmers have a mango final market only for middlemen/traders/gatherers around the plantation in the majority (Rasmikayati et al., 2019). Doing business as an intermediary is much easier than being a full-service supplier (Jones & George, 2016). Human capital variables through marketing differentiation have a significant effect on performance (Bahri et al., 2021). Various recent studies have focused on the digitization of quality or quality 4.0 (Khourshed & Gouhar, 2023). The development of digital technology allows farmers to interact directly (Hisrich et al., 2020), However, it requires the support of a scanning understanding. This process can reduce intermediary profits and create a balance of value and supply chains in products on a digital basis (Kementrian Komunikasi dan Informasi, 2019)

Intermediaries can take advantage of the development of digital technology to carry out their functions faster and more efficiently. The development of digital technology in everyday life is driven by the COVID-19 pandemic, remote work and learning, and online shopping which provides additional alternative communication and promotional tools (Flaherty et al., 2021). Advances in technology and information make trading systems more transparent, and easy. The range of product sales is unlimited (cross-border) (Indonesia Ministry of Trade, 2019). The use of digital platforms was increasing in line with the development of digital science and technology (Zhu, 2022). Digital marketing was identified as a creative and efficient method of acquiring, growing, and maintaining customer relationships (Arobo, 2022). Ritz et al. (2019) stated that the benefits of technology may not be the only motivator for small business owners/managers doing digital marketing.

Top of form Indramayu mango has a characteristic that other regions do not have, which is a beautiful orange color with a fresh sweet, and sour taste. The socio-economic well-being of fruit value chain actors in sub-Saharan Africa was supported by mangoes, but poor post-harvest management poses a serious threat to the survival and sustainability of the sub-sector the high incidence of post-harvest losses pose a serious threat to the survival and sustainability of the sub-sector (Adams et al., 2019). Mango belongs to perennial cash crops (Feyso & Mensa, 2021) cause the mango farming population generates great economic added value (Heidenreich et al., 2022). Certification was necessary for mango farmers to improve access to high-quality markets (Akrong et al., 2021). The area of land owned and the ownership in the group can increase the control of the mango market (Mossie et al., 2020).

Mango characteristics can be grouped into quality I, II, III, and off-grade. Quality I for export markets, quality II for supermarkets in big cities, quality III for main/local markets, and off-grade for further processing into derivative products. Increased awareness and demand can be increased through promotion in mass media and retail stores, in the hope that the mango value chain can contribute to better income, food security, and nutrition (Wangu et al., 2020). Research results of Mujuka et al. (2021) showed that the interest in consuming naturally preserved mangoes is positively influenced by age, gender, education, marital status, mass media, and place of purchase. Promotion through mass media and in-store retail was needed to increase awareness and influence demand.

The use of marketing 4.0 demands better mastery of information technology. The millennial generation has sufficient ability to access markets and farmers with the use of digital technology, so it is expected to be able to connect faster and at lower costs. Research results of Winarko et al. (2022) showed that perceived benefits (utilitarian and hedonic value) and marketing 4.0 (brand image, brand identity, and brand integrity) have a significant and positive effect on both customer satisfaction and buying interest. Marketing 4.0 began with the offering of sustainable solutions to evaluate marketing activities and improve brand performance, which could increase business competitiveness (Yeğin & Ikram, 2022) by brand strategy (Yasar &

Korkusuz Polat, 2022). Governments and educational institutions can create support in the form of marketing training, on digitalization and marketing tools 4.0. Doubts about its application need to begin with the success stories of entrepreneurs who have applied (Petrů et al., 2020).

Market segments that have not been reached by Indramayu mangoes, especially exports, result in low market share. Environmental information and technology have an insignificant effect on market share (Van Loo et al., 2020). Increased consumer knowledge of products has the potential to increase consumer choice and product market share, although perceptions and attitudes toward food may vary depending on cultural considerations (Lafarga et al., 2021). However, digital technologies are also opening up new avenues for value extraction and management through the use of data, which is helping big businesses capture market share in the agri-food industry. Ultimately, global agri-food corporations are beginning to emulate the business strategies of top digital technology firms, such as creating digital platforms that span agri-food systems. This implies that the agri-food sector is being affected by the larger economic transition from neoliberal capitalism to digital capitalism (Prause et al., 2021). Large businesses are best positioned to benefit from this innovation in the post-COVID-19 era by leveraging big data and digital platforms to coordinate widespread adoption and gain market dominance across industry sectors (Chiles et al., 2021). At the industry level, each company's technological capabilities, size, market share, and absorption capacity have an impact on the adoption of new technologies (Priyadarshini et al., 2019).

The characteristics of Gedong Gincu mango that are similar to other regions result in difficulties for consumers to get products that meet their expectations, and there is no guarantee of quality. Mango is a seasonal fruit, so at certain times it is in short supply, and when the harvest the prices decrease. This is why the associated post-harvest losses in the mango industry can to some extent be minimized. Efforts made by entrepreneurs of mango derivative products are to extend the shelf life by processing them into more durable products. To create jobs, the government should work to encourage investment in small-scale mango chip production, especially for women and young people (Adams et al., 2019).

The degree of education and contact extension determine how intensely a household participates in the value chain; on the other hand, age and distance to local markets have the opposite effects (Mossie et al., 2020). Labeling nutritional and/or health claims is the most influential trait in consumers' decisions to buy snack products enriched with mango flavor, main ingredients, price, and composition (Ahmed et al., 2020). Comprehensive instruction and training to enable smallholders to comprehend and fulfill the demands of high-value markets. To boost their involvement in high-value marketplaces, farmers should also have access to assets that lower transaction costs and loans. Mango flies are one of the current biotic stressors that affect mangoes (Muriithi et al., 2020).

Because they are less wasteful and have a longer lifespan, derivative products have the potential to reach new market niches, but they have not yet reached their full potential. Due to low cooperative membership in the business cycle, efforts to supply mangoes to the factory resulted in a plant capacity that exceeded the total volume of fruit that members could deliver (Wangu et al., 2020). Research results of Akrong et al. (2021) showed that both small and large-scale mango farmers, local traders as well as older farmers are unable to meet the challenge of participating in high-value markets.

Customers from China, Indonesia, and the Netherlands have different preferences for the natural qualities of dried mangoes (Sulistyawati et al., 2020). In sub-Saharan Africa, mangoes are among the most valuable tropical fruits in terms of commerce. Mangoes are particularly significant to small farmers in Kenya and Ethiopia who mostly produce fruit (Adams et al., 2019). Intermediaries from non-millennial groups have digital mastery that does

not support the use of marketing 4.0, as an effort to reach the intended market segment and suppliers. This causes communication to be slower so that it is unable to compete.

Marketing 4.0 is a new concept to serve customers using a hybrid–physical and digital framework (Kotler et al., 2021). Co-creation is a mutually beneficial relationship that brings customers and sellers together in a cooperative exchange. This approach considers the development of personal meaning, group identity, and marketing potential—a crucial factor in Marketing 4.0 that converts consumers into brand ambassadors (Gau, 2019). Marketing 4.0 focuses on "acting" and "advocacy" in the 5A customer concept (aware, appeal, ask, advocate) (Yasar & Korkusuz Polat, 2022). The focal point of the Marketing 4.0 period is consumer emotions, intentions, perceptions, and behaviors (Yeğin & Ikram, 2022). The four elements of the Marketing 4.0 model are together seen as components that can also influence consumer satisfaction and buy intent in the context of e-commerce, in addition to the perceived value components (Winarko et al., 2022).

The use of information technology with a wide range by the intended market segment requires training and support of facilities or human resources so that intermediaries have a better understanding and increase the market share of Indramayu mangoes. The anticipated market share for each respondent is computed using this "individual specific" coefficient, and the relationship between this market share and socioeconomic and demographic factors is then ascertained by ordinary least squares regression. Additionally, the average individual market share of the choice model for those who supported and opposed the policy was examined to eliminate the association between preferences for policy preferences and preferences for products (Van Loo et al., 2020).

Studies conducted recently also indicate that a greater understanding of microalgae by consumers may lead to more consumer choices and a larger market share for products enriched with microalgae. The findings presented here can be generalized to other European nations, albeit cultural factors may cause attitudes and perceptions of food to differ (Lafarga et al., 2021). However, digital technologies are also opening up new avenues for value extraction and control based on data utilization, and they are making it easier for large tech businesses to capture market share in the agri-food industry (Prause et al., 2021).

This research is important because an increase in the mango export market is needed to increase the amount of demand, especially during the harvest period, so that prices do not fall. Therefore, over the past two decades, this technology has received research interest and has been adopted by the aerospace industry, resulting in a significant market share of additive manufacturing compared to other sectors (Altıparmak & Xiao, 2021). These results support the hypothesis that nations with strong export and competitiveness growth rates will be able to capture a sizable portion of the global market in the future (Vu et al., 2019). The body of research demonstrated that outside forces give SMEs the push they need to attain a competitive edge in terms of market share, consumer appeal, and turnover. This article examines how external pressure on entrepreneurial behavior in business dynamics affects small and medium-sized firms' perspectives (Muhammad Auwal et al., 2020). Innovation excellence may benefit individuals as well as corporations, allowing them to preserve or grow their market share and profitability (Albertsen et al., 2020).

The trade, processing, and storage of food are likewise becoming more digitalized. Many online marketplaces, the majority of which are created by startups, promise to connect farmers and consumers or input providers with farmers (Prause et al., 2021). The research demonstrated that outside forces give SMEs the push they need to attain competitive advantages in terms of market share, consumer appeal, and turnover (Muhammad Auwal et al., 2020). Startups that establish financial partnerships with large agribusiness companies will have a win-win impact, as they can share knowledge about consumer perceptions and purchasing decisions(Chiles et al., 2021). Millennial intermediaries have the opportunity to

leverage marketing 4.0 to expand their market share and boost sales and earnings. Innovation excellence may benefit individuals as well as corporations, allowing them to preserve or grow their market share and profitability (Sandoval, 2020).

The use of marketing 4.0 in the Indramayu mango value chain can increase market share because middlemen can actively identify consumer needs through understanding the 4Cs (co-creation, currency, communal activation, and conversation). The foundation of Marketing 4.0 was co-creation, which demonstrated consumer involvement and positioned them as an ally in marketing initiatives. It should come as no surprise that in the age of Marketing 4.0, remarks made about those communities by third parties as well as by members of those groups receive extra attention (Gau, 2019). The "customer" is one of the key features that sets marketing 4.0 apart from previous marketing strategies. The "acting" and "advocating" aspects of the 5A customer path—aware, appealing, asking, acting, and advocating—are the focal points of marketing 4.0 (Yasar & Korkusuz Polat, 2022).

We provide a Marketing 4.0 perspective in this article, where data science and IoT are critical to enhancing the marketing paradigm (Khargharia et al., 2023). Due to digitalization and the requirement for an enhanced framework, the Marketing 4.0 phenomenon has received favorable attention recently (Dash et al., 2023). This approach, which echoes the idea of Marketing 4.0, integrates top-down and bottom-up ideas and enables members to communicate in both directions to identify a better system or solution for the company. It also included a broad range of worthwhile activities that affected the participants' hearts as well as their minds (Gau, 2019).

Research Method

The research method used is descriptive qualitative by identifying the current value chain of Indramayu mango marketing, then the role of intermediaries in the value chain, and then recording and coding with the help of Atlas.Ti software. Primary data collection was conducted through in-depth interviews and direct observation with farmers, intermediaries, mango derivative product entrepreneurs, agriculture offices, cooperative offices, and MSMEs in Indramayu. Secondary data is obtained through the results of previous research, books, and journals related to intermediaries, value chains, market share, and marketing 4.0 implementation. The validity test is carried out by the triangulation method.

Results and Discussion

The results of the study are shown in Figure 1.

The main activities of intermediaries are receiving crops from farmers, weighing, selecting/grouping, packing, and sending mangoes to the intended market. Very few quality products I and II, have high water content, so it is easily damaged, harvest time, transportation means used, and packaging methods must be right. The small number of quality I and II products tempts intermediaries to mix them with quality III, so there is no quality guarantee, and disturbs consumer confidence. Mangoes with off-grade quality can be further processed into derivative products such as juice, syrup, chili sauce, crackers, cake, thereby reducing waste, and providing opportunities for longer shelf life, and providing consumers with opportunities to enjoy mangoes out of season. Shipping activities need to consider cost and time because the characteristics of mangoes are perishable so they need to be handled carefully, as well as the amount and level of ripeness adjusted to the destination area.

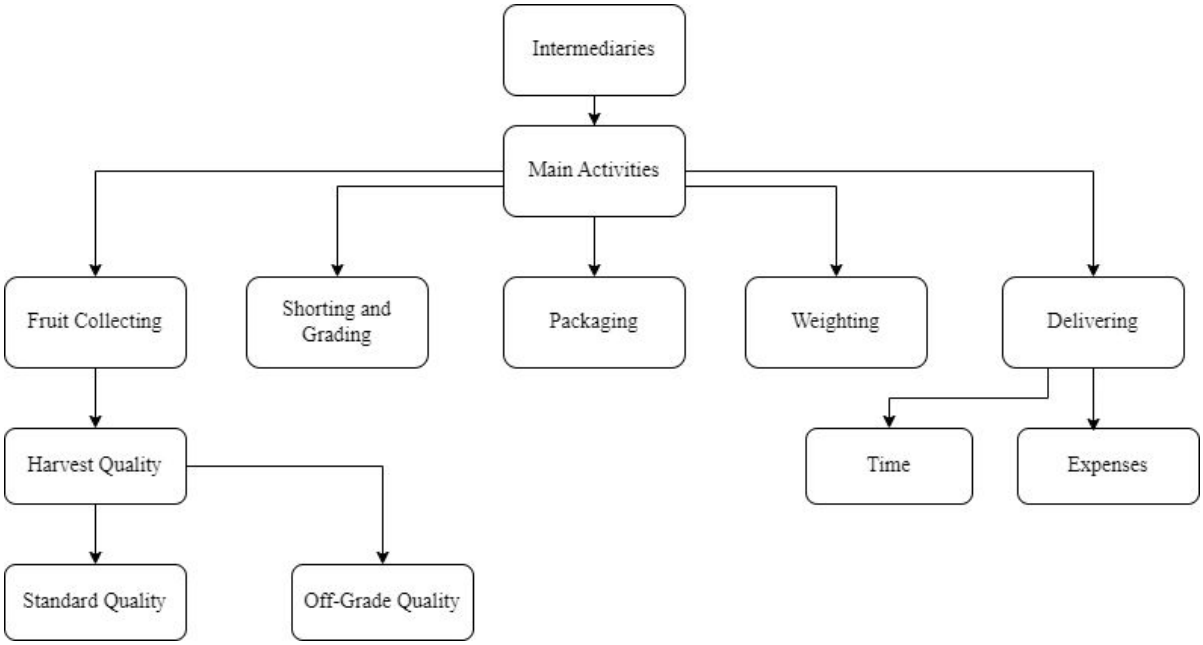

Figure 1 Data Processing Results

Marketing 4.0 combines co-creation, currency, communal activation, and communication, resulting in intermediaries being able to communicate with customers about what mangoes are wanted, prices, and shipping methods so that market share can be increased, with lower costs and delivery times. The primary characteristic of Marketing 4.0 is the customer's desire to participate in the creation of the product and to exchange information, thoughts, and experiences (Kolářová & Kolářová, 2020). This is a difficult challenge, particularly in the context of Marketing 4.0, which requires businesses to take into account customers' talents and creativity in addition to their demands in a holistic manner (Wereda & Woźniak, 2019).

In addition to perceived value components that may affect customer satisfaction and buying interest in the context of e-commerce, the four components of the Marketing 4.0 model are combined as components that may also affect customer satisfaction and buying interest (Winarko et al., 2022). In the Marketing 4.0 era, environmental concerns are among the topics that are becoming more relevant due to the rapid changes and development of technology (Yeğin & Ikram, 2022). Family/non-family businesses that attract positive emotions, create brands, and actively and creatively communicate them using Marketing 4.0 tools, can be considered excellent brands (Petrů et al., 2020).

Quality assurance according to grade is needed to ensure consumer confidence. Taste is also a consideration that must be considered. For instance, the Dutch and Chinese value the absence of additives over all other qualities, but Indonesians value crisp textures above all others. This adds to the understanding of product properties and qualities that manufacturers need to pay attention to (Wangu et al., 2020). The general driving elements of production and marketing are thought to include soil fertility, a lack of high-quality planting material, fluctuations in the fruit market, variations in rainfall, a lack of value-adding techniques, and insufficient market integration (Feyso & Mensa, 2021). This will guarantee that more money is spent on mango growing to boost output and satisfy the premium mango market's quality standards (Akrong et al., 2021).

By providing entrepreneurs with information about consumer preferences for prices and products derived from mangos, intermediaries can stimulate innovation and create new business opportunities. For instance, businesspeople can use their familiarity with their native

nation to generate value or serve as intermediaries (Harima et al., 2021). In the past, border town merchants have served as middlemen, selling to local merchants at lower costs, primarily between the transnational, regional, and local levels (Titeca, 2019). Intermediaries have access to information about the agricultural market and are well-versed in the workings of the market (Magesa et al., 2020). Intermediaries need to guarantee that there is no difference in quality when offers and sales transactions are made so as not to harm customers in the value chain (Delgado et al., 2021).

Understanding of digital technology is mastered by millennial intermediaries while non-millennial intermediaries experience better market mastery and product quality. The combination of experience and mastery of digital technology will increase Indramayu's mango market share. Digital transformation is very effective in marketing communications (Yasar & Korkusuz Polat, 2022). Digital marketing has played an important role in business strategies to survive during and after experiencing the COVID-19 pandemic (Winarko et al., 2022).

As long as an internet network is accessible and less expensive than traditional or printed images, digitalization enables intermediaries to interact with customers (catalogs, newspapers, billboards, etc.) one benefit of marketing 4.0 is advertising, which is crucial for promoting green products (Yeğin & Ikram, 2022). Furthermore, the majority of the literature on Marketing 4.0 focuses on the digital world and concepts like artificial intelligence and big data (Gau, 2019). In this digital age, customers have many requirements due to the information available (Dash et al., 2023). A better understanding of marketing 4.0 can be done through training and socialization by related agencies so that the business can run fairly and the market share becomes wider. In the current digital era, Marketing 4.0 integrates online and offline client and company interaction due to changes in the corporate sector, new technology, and the growth of the Internet in every aspect of life during the last few decades (Wereda & Woźniak, 2019).

Today's consumers are generally adept at navigating the internet world and utilizing a variety of communication channels in different ways depending on the stage of their purchasing process. In digital marketing, a company's ability to draw in customers through innovative and creative approaches is more important than simply selecting the appropriate channels, messages, and formats. Studies reveal that most of the time, the owners of the enterprises that fall under it do not see or implement such marketing (Petrů et al., 2020).

Customer purchasing is not as crucial as advocating for marketing 4.0. In the digital age, a business must lead and follow its clients. Brands must develop marketing plans that consider 5A customer paths, as there can be touchpoints where brands can intervene (Yasar & Korkusuz Polat, 2022). Technological developments have an impact on the evolution of marketing as well. This is known as Marketing 4.0, and it is linked to Industry 4.0 and is defined by digitalization (Kolářová & Kolářová, 2020).

To put it briefly, the marketing ideas that come from Marketing 3.0 and the community ideas that are emphasized by Marketing 4.0 not only encourage consumers to volunteer but also build relationships between the marketing organization and other relevant service providers, which can lead to integrated synergies. By fusing top-down and bottom-up ideas, the marketing 4.0 concept enables participants to communicate in both directions as they look for an improved system or solution for the company (Gau, 2019). Digitalization and the demand for an enhanced framework have brought positive attention to the Marketing 4.0 phenomenon (Dash et al., 2023).

Conclusion

The use of marketing 4.0 in the Indramayu mango market value chain can increase market share because intermediaries can actively identify consumer needs through the implementation

of 4C (co-creation, currency, communal activation, and conversation). Intermediaries actively communicate with potential customers to determine the required mango grade at the price they want and the required shipping procedures. Furthermore, intermediaries communicate with manufacturers about the products produced and cooperate based on mutual trust. Quality assurance according to grade increases consumer confidence in intermediaries thereby increasing the market share of Indramayu mangoes. The implementation of marketing 4.0 by Mango Intermediary Indramayu makes commerce fairer. This study has limitations in the type of mango in question is *magnivera indica l.*

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