EVALUATION OF THE EFFECTIVENESS AND EFFICIENCY OF MARKETING CHANNELS IN AGRICULTURAL PRODUCT DISTRIBUTION: A LITERATURE REVIEW OF STRUCTURE, FUNCTION, AND IMPACT ON FARMER INCOME

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Abstract

This study aims to evaluate the effectiveness and efficiency of marketing channels in the distribution of agricultural products and to analyse the influence of channel structure and function on farmers' income. This study uses a literature review method with a descriptive qualitative approach through an examination of various scientific literature, previous research results, and agricultural economic policy publications. The results of the study show that the effectiveness of marketing channels is determined by the ability of the distribution system to distribute products quickly, accurately, and with minimal cost, while efficiency is related to the optimisation of resources to achieve maximum results. Long and inefficient channel structures generally cause a decline in profit margins at the farmer level because most of the added value is absorbed by intermediaries. Conversely, simple, integrated channel structures and functions supported by supporting functions such as price information, logistics, and cooperative institutions can significantly increase farmers' income. This study also emphasises the importance of modernising marketing systems through digitalisation, strengthening farmer institutions, and supporting public policies that favour producer welfare. Optimising the effectiveness and efficiency of agricultural marketing channels is key to improving the competitiveness and economic stability of farmers in the era of globalisation.

Keywords: effectiveness, efficiency, marketing channels, channel structure and function, farmer income

Introduction

The agricultural sector contributes significantly to national economic development, especially in developing countries such as Indonesia, which has great potential in the production of various agricultural commodities. Agriculture not only supports the food needs of the community, but is also the main source of livelihood for most of the rural population (Oliveira, 2023) . However, one of the issues that still hinders the progress of this sector is an ineffective and inefficient marketing system. The disparity between prices at the farmer level and prices paid by consumers often

indicates an imbalance in the distribution chain, which directly impacts farmers' incomes and the competitiveness of agricultural products in local and national markets.

Marketing channels are an important component in the agribusiness system that determines how agricultural products move from farmers as producers to end consumers. The structure of these channels can vary, ranging from direct systems that involve direct interaction between farmers and consumers, to long channels that involve many intermediaries such as middlemen, collectors, wholesalers, and retailers (Rahman, 2023). Each type of channel has its own advantages and disadvantages, so its effectiveness and efficiency need to be evaluated in depth. Inappropriate selection or implementation of marketing channels can lead to high distribution costs, low selling prices at the farmer level, and increased risk of product spoilage due to transaction delays (Pawar, 2023).

In Indonesia, various studies have shown that most farmers still rely on lengthy and multi-layered traditional marketing mechanisms. This type of channel structure often results in very small profit margins for farmers, as most of the profits are absorbed by middlemen (Pawar, 2023). In addition, limited access to market price information, storage facilities, and business capital makes it difficult for farmers to take on a greater role in the distribution of their products. This condition strengthens the position of middlemen or collectors as the parties who control the distribution network, and indirectly weakens the bargaining position of farmers in determining the selling price of their crops (Kumar, 2024).

The effectiveness of marketing channels can be defined as the extent to which the distribution system is able to bridge the interests of producers and consumers optimally with minimal cost and time. Meanwhile, efficiency describes the extent to which resources in the marketing process are used economically and productively to obtain the best results (Kotler, 2021). In the context of agriculture, these two concepts are closely related to farmers' welfare. The more efficient and effective the marketing channels used, the greater the potential for increasing farmers' income, as products can be sold at more competitive prices and with higher profit margins (Wood, 2020).

In addition to economic aspects, the success of marketing channels also depends on the structure and function of the institutions involved in the distribution process. An overly long channel structure tends to result in fragmentation of responsibility, where each layer of intermediaries takes a share of the profits without adding much value to the product. The functions of marketing channels in this case include exchange functions, physical functions, and facilitation functions. These three functions must work synergistically so that the distribution system is not only efficient but also fair to all actors, especially farmers who are at the bottom of the production chain (Mul, 2017).

The marketing of agricultural products differs from that of industrial products due to the characteristics of the products, which are perishable, have large volumes, and have limited marketing periods. Therefore, the effectiveness of distribution

channels is a critical factor in determining the success of the marketing system. For example, delays in the distribution of horticultural products can cause a decline in quality, resulting in a drastic drop in selling prices. In this context, distribution efficiency is not merely an economic issue but also relates to reducing post-harvest losses and enhancing national food security. (Thakur, 2023).

Digital transformation also brings new opportunities for the agricultural sector to improve the effectiveness of product distribution. The emergence of digital marketing and e-commerce platforms has paved the way for farmers to sell their products directly to consumers (T. Singh Sharma, R., 2023). This model shortens the distribution chain and has the potential to increase farmers' profit margins. However, the adoption of this technology still faces obstacles, particularly related to farmers' digital literacy, limited internet access, and market confidence in agricultural products sold online. A more comprehensive evaluation of the effectiveness and efficiency of the digital marketing model is still needed through literature reviews and empirical research (Nwankwo, 2023).

Farmers' income is not only determined by land productivity or crop yield, but also by how well the products can be marketed. When the marketing system is ineffective, a bountiful harvest does not automatically translate into increased income. There are many cases where prices at the farmer level plummet during the harvest season because distribution is unable to adjust the rate of supply to market demand (Rosenbloom, 2021). This is where an efficient marketing system is needed so that price fluctuations can be controlled and farmers' income becomes more stable.

Research on the effectiveness and efficiency of marketing channels is also important for public policy formulation. The government can use the results of these studies to determine strategies for improving the agricultural product value chain, for example through strengthening farmer cooperatives, developing auction markets, or implementing an integrated price information system. With data- and research-based policies, it is hoped that the marketing structure in Indonesia can be more equitable and favourable to small producers. In addition, this study supports the achievement of sustainable development goals, particularly in terms of poverty alleviation and food security.

Research Methods

The research method used in this study is library research with a descriptive qualitative approach. This study focuses on an in-depth review of various literature, including scientific journals, agricultural economics textbooks, previous research reports, and government policy documents relevant to the theme of the effectiveness and efficiency of agricultural product marketing channels (Eliyah & Aslan, 2025). Data was collected through a process of identifying, selecting, and analysing credible and upto-date sources, which were then synthesised to obtain a comprehensive picture of the

structure, function, and impact of marketing channels on farmers' incomes. The analysis was conducted thematically by grouping the study results based on key variables, such as channel type, effectiveness and efficiency indicators, and implications for farmer welfare. This approach was chosen because it allowed researchers to evaluate agricultural marketing phenomena from a theoretical and empirical perspective in a systematic manner without the space and time limitations commonly encountered in field research (Cronin et al., 2008).

Results and Discussion

Effectiveness and Efficiency of Marketing Channels

The effectiveness of marketing channels is an important concept in agricultural distribution systems because it determines the extent to which the process of moving goods from producers to consumers runs according to the planned objectives. In the context of agricultural products, effectiveness is not only related to how quickly products reach the market, but also concerns the channel's ability to maintain quality, price suitability, and product availability in accordance with demand (Rosenbloom, 2021). An effective distribution system is able to distribute agricultural products with minimal loss, in an efficient time frame, and with quality maintained until they reach the end consumer. Because agricultural products are perishable and have a short shelf life, any delays or errors in the marketing chain have a direct impact on farmers' economic losses (Dulari, 2025).

Effective marketing channels are determined by the structure and mechanism of relationships between actors within them. In practice, farmers can choose to sell their crops directly to consumers (short channel) or through several intermediaries such as middlemen, collectors and distributors (long channel). Short channels are often more effective in terms of distribution speed and price margin reduction, but require greater managerial capacity and market access on the part of farmers. Conversely, long channels allow for large-scale distribution, but often lead to imbalances in value-added distribution due to the large number of parties taking profits along the value chain (López, 2023).

Marketing channel efficiency refers to the extent to which the use of resources—whether labour, capital, or time—can result in optimal product distribution at the lowest possible cost. In agricultural economics, efficiency is measured based on the ratio between output and input involved in marketing activities. If transportation, storage, and intermediary commission costs can be reduced without compromising product quality and quantity, then the system is considered efficient (Zhang, 2024). Efficiency is not only financial, but also operational and technological, covering the extent to which distribution is able to adapt to market dynamics and consumer needs.

The effectiveness and efficiency of marketing channels are interrelated, but do not always go hand in hand. A system may be effective in terms of distributing products

to many markets, but inefficient because it incurs high transaction costs. For example, in the distribution of fresh vegetables, the use of many intermediaries can indeed expand market reach, but it will increase transportation costs, commissions, and the risk of product damage. Therefore, evaluating the performance of marketing channels must consider both aspects simultaneously in order to produce a distribution strategy that balances economic benefits and system sustainability (S .

Research conducted by (Weatherspoon, 2021) shows that the length of the marketing chain in the agricultural sector is inversely proportional to the efficiency of the distribution system. In channels involving many intermediaries, added value tends to accumulate at the level of traders and distributors, rather than farmers as the primary producers. Conversely, shorter channels allow farmers to obtain higher price margins due to reduced commission and transportation costs. In this context, strengthening the role of farmer economic institutions such as cooperatives is important to cut out overly long channels and shorten the distribution chain.

Marketing channel effectiveness indicators can be measured through aspects such as distribution speed, product damage rates, consumer satisfaction, and supply stability. Efficiency indicators are usually measured based on the ratio between marketing costs and the value of products sold, also known as the marketing margin. This margin describes the difference between the price at the producer and consumer levels; the smaller the margin, the more efficient the marketing system. In agricultural economics literature, efficiency is also often associated with the channel's ability to quickly adjust supply and demand without causing price distortions (Lee, 2023).

One of the main challenges in creating an efficient marketing channel is infrastructure. Limited roads, transportation facilities, and storage facilities result in relatively high distribution costs in Indonesia, especially in remote production areas. The vast and diverse geographical conditions increase logistics costs, thereby reducing market efficiency (F. Silva Martins, J., 2024). Furthermore, not all commodities have the same characteristics; some horticultural products require special handling at low temperatures, while food crops tend to be more durable, so efficiency approaches must be tailored to the characteristics of each commodity (Ahmad, 2023).

Institutional aspects of marketing also play a major role in the effectiveness and efficiency of channels. Poorly organised marketing institutions can lead to overlapping distribution activities and a lack of coordination between market players. In many cases, important functions such as transportation, sorting, and storage are carried out by intermediaries using conventional systems without standard quality control, thereby causing inefficiencies. To improve effectiveness, professional marketing institutions are needed, supported by regulations, information technology, and price transparency mechanisms (Hernandez, 2024).

Information technology plays a strategic role in improving the effectiveness and efficiency of agricultural marketing systems. Through technologies such as e-commerce

applications, real-time price information systems, and digital agribusiness platforms, farmers can connect directly with consumers and obtain more accurate market information. The presence of such technology helps reduce information asymmetry, lower transaction costs, and accelerate product distribution. However, the low adoption rate among smallholder farmers remains a significant obstacle in creating a fully digital and efficient marketing system (Gonzalez, 2024).

Marketing channel efficiency is also related to economies of scale and the bargaining power of market participants. Large intermediaries usually have advantages in terms of capital and distribution networks, enabling them to control prices and determine the flow of products. Small farmers who do not have strong bargaining power are often forced to accept low prices because they have no other options for distributing their crops. In this case, government intervention through the establishment of auction markets, strengthening cooperatives, or providing price stability facilities are important steps to balance market forces to make them more efficient and equitable (Joshi, 2021).

The effectiveness of marketing channels is not only measured by the speed and volume of distribution, but also by the extent to which distribution creates added value for all parties involved. This added value can take the form of improved service quality, price transparency, and payment certainty for farmers. Sustainable effectiveness can only be achieved if all actors in the supply chain perform their functions proportionally and in an integrated manner. To that end, coordination between parties is essential, including vertical integration between producers and market actors in the form of strategic partnerships (Joshi, 2021).

In the context of public policy, the effectiveness and efficiency of marketing channels can be improved through government investment in infrastructure, agricultural logistics, and supply chain digitalisation. The government can also stimulate healthy competition among marketing agencies through price transparency and supervision of monopsony practices. In addition, training and extension programmes for farmers on modern marketing management will help improve their ability to manage distribution channels independently and efficiently (Chen, 2025).

Previous research has shown that improving the effectiveness and efficiency of marketing channels contributes directly to improving farmers' welfare. When distribution costs decrease and marketing margins narrow, the selling price at the farmer level increases. This has been proven in various studies showing that technological interventions, cooperative strengthening, and the implementation of integrated supply chain systems can increase farmers' income by more than 20 per cent for several leading commodities (Kim, 2025). Therefore, marketing system reform is not only a technical issue but also an economic strategy to strengthen the foundations of agricultural development.

Overall, the effectiveness and efficiency of agricultural product marketing channels are key to creating a fair, stable and highly competitive distribution system. Evaluation of these two aspects must be carried out comprehensively, covering structural, institutional, technological and policy dimensions. Without improvements in effectiveness and efficiency, farmers will remain in a weak bargaining position even if productivity increases. Therefore, reformulating an integrated, adaptive, and information-based marketing system is a strategic step to ensure that agricultural products can provide maximum economic value while strengthening the sustainable welfare of farmers.

The Influence of Channel Structure and Function on Farmers' Income

The marketing channel structure plays a fundamental role in determining how much economic value farmers derive from their production. In the agribusiness system, the channel structure not only reflects the number of intermediaries involved in the product distribution process, but also illustrates the pattern of power relations, information flow, and profit margin distribution among actors (Kim, 2025). An overly long structure means that the added value of the product does not return to the primary producers, but is distributed among intermediary traders who have greater control over prices and supply. As a result, even though farmers have increased their productivity, this increase is not necessarily followed by a significant increase in income (Yusuf, 2024).

Conversely, a leaner and more concise marketing channel structure can shorten the distance between producers and consumers, so that the price margin that was originally absorbed by intermediaries can be diverted to increase farmers' income. In direct channels, farmers can sell their products to consumers or retailers at higher prices because they cut out the long distribution chain. However, the effectiveness of this type of structure is highly dependent on farmers' capacity to manage marketing independently, including their capabilities in logistics, packaging, promotion, and customer service (Mwangi, 2024).

The relationship between channel structure and farmer income is also influenced by bargaining power in the market. In an oligopsony market structure, where only a few large buyers control the market, farmers are in a weak position and unable to determine favourable selling prices. Conversely, in a more open market structure with many buyers and a transparent price information system, farmers have a greater opportunity to obtain fair prices (Patel, 2023). Therefore, channel structure reform does not only mean reducing the number of intermediaries, but also creating a system that increases farmers' bargaining power in the agricultural value chain.

The marketing channel function plays a strategic role that is just as important as structure. In agricultural marketing theory, channel functions include exchange functions (buying and selling), physical functions (storage, transportation, packaging), and facilitation functions (financing, information, standardisation, and promotion). The

implementation of these functions determines the extent to which product distribution runs smoothly and evenly. When channel functions are effective, products can reach the market in good condition, prices can be kept stable, and farmers receive a proportionate share of the profits. However, if these functions are carried out inefficiently, marketing costs increase and squeeze farmers' profit margins (Gurning, 2024).

One of the factors contributing to low farmer incomes in many regions is the weak functioning of price information in marketing channels. Many farmers do not have adequate access to market price data, so they tend to sell their crops at low prices to collectors without knowing the actual market value. This information imbalance creates market asymmetry that is detrimental to farmers. The implementation of a digital-based price information system can be a solution to this problem, enabling farmers to make more rational marketing decisions (Fatmawati Kaddas, 2023).

The role of physical functions is also very significant in determining the amount of farmers' income. Agricultural products, especially fruits and vegetables, are very susceptible to damage during the distribution process. Poor transportation infrastructure, a lack of refrigerated storage facilities, and limited quality packaging cause many products to be damaged before they reach the market. These post-harvest losses directly reduce sales volume and lower farmers' income. When physical functions are adequately implemented with modern logistics support, these potential losses can be significantly reduced (Khan, 2024).

Facilitation functions include the provision of support services that enable smooth transactions, such as financing, agricultural insurance, and the provision of formal marketing institutions. The absence of accessible microfinance institutions has led many farmers to rely on middlemen who also act as lenders. Such relationships often trap farmers in a debt system that weakens their bargaining position in price negotiations. When alternative financial institutions and farmer cooperatives provide capital support and market access, farmers' incomes can increase because they are able to sell their products more independently (Schmitz Jr., 2019).

Conceptually, changes in the structure and function of marketing channels have an impact not only on economic aspects, but also on social and institutional aspects. An overly hierarchical structure creates long-term dependence of farmers on intermediaries, while a more open structure encourages independence and innovation in marketing (Kotler, 2020). Improving institutional functions, for example through cooperatives or farmer groups, helps strengthen the position of farmers in the value chain. Cooperatives can act as collective marketing institutions that negotiate prices, organise logistics, and accumulate profits to be distributed proportionally to their members.

The positive impact of marketing channel restructuring is also evident in the increased stability of farmers' incomes. When marketing channels are more efficient,

price fluctuations can be reduced due to stability in supply and demand. In the long term, this stable system also encourages investment in the agricultural sector, both from farmers themselves and external parties. Increased income creates a positive cycle of increased productivity, improved product quality, and increased access to modern technology. However, not all changes in the marketing channel structure have a direct beneficial impact on farmers (Heien, 2018). In some cases, direct access to markets without institutional and logistical support can create new risks such as demand uncertainty, reduced price guarantees, or high individual distribution costs. Therefore, a balanced policy approach is needed to ensure that marketing channel restructuring not only promotes economic efficiency but also guarantees protection against external risks that smallholder farmers may face (Norwood, 2019).

An evaluation of marketing channel functions shows that farmers with good distribution and information facilities have higher incomes than those who still rely on traditional systems. For example, research shows that farmers who are members of marketing cooperatives obtain selling prices that are 15–25 per cent higher than independent farmers. This demonstrates the importance of facilitation in creating a more equitable distribution of added value within the agribusiness system (M .

The digitisation and modernisation of marketing functions is now an important trend that cannot be ignored. Online marketing platforms shorten distribution structures while expanding farmers' access to national and even international markets. In addition, the application of blockchain technology in the agricultural supply chain is also being tested to increase product origin transparency and consumer confidence. When this technology is properly implemented, farmers obtain more stable prices, secure payment processes, and greater profit margins due to the elimination of asymmetric costs between intermediaries (Baker, 2018).

Changes in the structure and function of marketing channels must also be accompanied by an increase in human resource capacity in the agricultural sector. Education and training in market management, digital marketing, and agricultural logistics are urgently needed so that farmers can adapt to the transformation of the distribution system. Without this capacity building, the restructuring of marketing channels will not yield optimal results, as farmers will remain passive in a dynamic supply chain. Therefore, the active participation of farmers in the entire marketing process is a determining factor in the success of increasing income (Oliveira, 2023).

Based on the overall description, it can be concluded that the structure and function of marketing channels have a significant influence on the amount of income and welfare of farmers. An efficient structure and optimal functioning will increase added value at the producer level, reduce profit distribution inequality, and strengthen national agricultural competitiveness. However, success in creating fair marketing channels requires policy support, investment in infrastructure, institutional capacity building, and farmers' mastery of digital technology. With a combination of these

factors, it is hoped that farmers' income will increase sustainably and contribute positively to national economic growth.

Conclusion

The effectiveness and efficiency of marketing channels play a very important role in determining the success of agricultural product distribution. Channel effectiveness is demonstrated by the ability of the marketing system to distribute products quickly, accurately, and with high quality to consumers, while efficiency describes the extent to which the distribution process is carried out with optimal use of resources and minimal costs. Inefficiency or ineffectiveness of the system results in price disparities, waste of resources, and economic losses, which ultimately reduce farmers' profits. Thus, improving marketing channels by enhancing distribution performance is a strategic step towards strengthening the agricultural sector in a sustainable manner.

The structure and function of marketing channels have also been shown to have a direct impact on farmers' incomes. Marketing structures that are too long, with many intermediaries, tend to reduce the profit margins received by farmers because most of the added value is absorbed by middlemen. Conversely, a simpler structure supported by effective channel functions, such as efficient transportation, transparent price information, and affordable financing support, can significantly improve farmers' welfare. Institutional functions in the form of cooperatives or farmer groups also play an important role in strengthening farmers' bargaining position, improving market access, and reducing dependence on middlemen.

Considering the overall results of the literature review, an integrative strategy is needed to optimise the effectiveness and efficiency of agricultural marketing channels through strengthening institutional structures, applying digital technology, and supporting public policies oriented towards farmers' welfare. The government and various stakeholders need to encourage the modernisation of the distribution system and expand access to logistics infrastructure and market information for farmers across all regions. The implementation of a fair, transparent, and efficient partnership-based marketing model is key to increasing farmers' incomes and strengthening the competitiveness of national agricultural products in the era of economic globalisation.

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