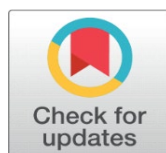
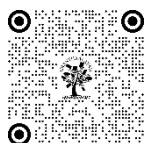


# FACTORS INFLUENCING DEVELOPING AGRICULTURE MARKET WITH RESPECT TO FARMER PRODUCING COMPANIES IN PUNE DISTRICT

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## ABSTRACT

This study investigates the factors influencing the development of agricultural markets and the challenges faced by farmer-producing companies (FPCs) in effectively marketing their produce. Data was collected through a structured questionnaire administered to 100 FPC directors, focusing on the role of infrastructure, financial access, technology adoption, and government support in market growth, as well as the challenges related to market access, transportation infrastructure, price fluctuations, product quality consistency, and bargaining power. The study employs a One-Sample t-test to analyze the data and test the hypotheses. The findings indicate that modern infrastructure, access to financial support, technological adoption, and government policies are crucial for the success of FPCs in expanding agricultural markets. However, challenges such as limited market information, inadequate transportation, fluctuating prices, inconsistent product quality, and insufficient bargaining power were identified as significant barriers. These results highlight the need for targeted interventions to support FPCs in overcoming these challenges and enhancing their market reach. The study's implications provide valuable insights for policymakers, FPC leaders, and stakeholders in fostering the development of agricultural markets in emerging economies.

**Keywords:** Farmer-Producing Companies, Agricultural Market Development, Infrastructure, Financial Access, Technology Adoption, Market Challenges, Transportation, Product Quality, Bargaining Power, Rural Development

## 1. INTRODUCTION

The development of agricultural markets plays a critical role in shaping the economic landscape, especially in developing countries where agriculture remains the backbone of the economy. The involvement of farmer-producing companies is particularly significant, as these organizations bridge the gap between producers (farmers) and consumers, ensuring that agricultural products are efficiently distributed, marketed, and consumed. The relationship between farmers and producing companies is essential for building an integrated agricultural market that is capable of ensuring sustainable growth, increasing productivity, and improving the livelihoods of farmers. The factors influencing the development of agricultural markets, specifically in relation to farmer-producing companies, are multi-dimensional, encompassing economic, technological, social, political, and environmental elements.

First and foremost, economic factors are pivotal in shaping agricultural markets. The cost of production, including the cost of inputs such as seeds, fertilizers, machinery, and labor, directly impacts the price at which agricultural products are sold. Farmer-producing companies play a crucial role in providing the necessary infrastructure and resources to reduce production costs. Additionally, access to finance is essential for both farmers and companies to scale operations, invest in technology, and improve overall productivity. The availability of credit facilities, market access, and fair pricing are essential drivers of growth. Furthermore, the development of value chains, including processing, packaging, and transportation, enhances the value of agricultural products, making them more competitive in both domestic and international markets.

Technological advancements are also among the key factors influencing agricultural market development. Innovations in farming practices, such as the use of precision agriculture, mechanization, and the adoption of improved crop varieties, contribute significantly to increasing agricultural productivity. Farmer-producing companies that invest in these technologies can help farmers boost yields and reduce post-harvest losses. Moreover, digital platforms and mobile technology have transformed the agricultural landscape by providing farmers with real-time market information, weather updates, and advice on best practices. Such technologies empower farmers to make informed decisions, improve market linkages, and ensure better price realization.

Social factors, including the educational background of farmers, access to extension services, and the presence of cooperatives or farmer producer organizations (FPOs), also play a vital role in the development of agricultural markets. Farmer producer companies often serve as aggregators, enabling smallholder farmers to pool their resources, thus gaining better bargaining power and improving their ability to access markets. The presence of skilled human resources and an educated workforce in these organizations ensures that farmers receive timely information, technical support, and appropriate training to improve productivity and market access.

Political factors such as government policies, subsidies, infrastructure development, and trade regulations are also significant determinants. Governments that invest in rural infrastructure, such as roads, irrigation systems, and cold storage facilities, facilitate the smooth functioning of agricultural markets. Trade policies that promote exports and reduce barriers to entry in foreign markets can open new avenues for growth. Moreover, agricultural subsidies and support for farmer producer companies encourage a more sustainable and inclusive agricultural economy.

Environmental sustainability is another important consideration. Climate change, soil degradation, water scarcity, and other environmental challenges affect agricultural productivity and the stability of agricultural markets. Farmer-producing companies that focus on sustainable practices, including organic farming, water conservation, and agroforestry, are better equipped to adapt to changing environmental conditions. These companies also help farmers to diversify their income sources, thereby reducing dependency on single crops and ensuring long-term market stability.

In conclusion, the development of agricultural markets in relation to farmer-producing companies is influenced by a confluence of economic, technological, social, political, and environmental factors. These factors, when addressed holistically, have the potential to create a thriving agricultural ecosystem that benefits farmers, companies, and consumers alike. To build resilient agricultural markets, it is essential for all stakeholders, including government bodies, private sector entities, and farmers themselves, to collaborate and adopt integrated approaches that foster sustainable growth and development.

## 2. REVIEW OF LITERATURE

Adanacioglu (2017) explores the factors influencing farmers' decisions to engage in direct marketing, focusing on cherry growers in Turkey. This study identifies various economic, social, and logistical barriers that farmers face when choosing to market their produce directly. The research emphasizes the role of farmer producer organizations in overcoming these barriers by offering marketing channels that increase profitability and market access. By providing the right infrastructure and market knowledge, farmer-producing companies can significantly affect the development of agricultural markets, particularly in direct marketing systems.

Aggestam, Fleiss, & Posch (2017) examine the drivers behind food producers' intentions to scale up short food supply chains. Their research highlights the importance of trust, market transparency, and localized distribution networks in influencing farmers' decisions. The study underscores that the success of farmer-producing companies is contingent on the establishment of trustful relationships with farmers, which is crucial for fostering market participation.

Short food supply chains represent a promising avenue for developing agricultural markets by reducing the distance between producers and consumers.

Bardhana, Sharma, & Saxena (2012) analyze the market participation behavior of smallholder dairy farmers in Uttarakhand, India. Their study reveals that access to market infrastructure, transportation, and information technology significantly influences market choices among smallholders. The research suggests that farmer-producing companies can play an essential role in developing agricultural markets by improving access to such services, thus enabling farmers to participate more effectively in formal markets. Addressing these barriers can enhance the productivity and competitiveness of the agricultural sector.

Blandon, Henson, & Islam (2010) investigate the importance of understanding the marketing preferences of small-scale farmers through a latent segment approach. The study reveals that farmers have diverse preferences when choosing marketing channels, with factors such as price stability, payment terms, and trust in buyers being critical considerations. The research highlights the importance of farmer-producing companies tailoring their strategies to meet these diverse needs, thus fostering the development of agricultural markets. Understanding farmer preferences allows for more effective market integration and reduces transaction costs.

Jorgensen & Martin (2015) explore Australian farmers' intentions to connect with modernized delivery systems in irrigation districts. The study employs the reasoned action approach to identify factors such as perceived benefits, government support, and technological readiness that influence farmers' decisions. This work is relevant to the development of agricultural markets as it highlights the critical role of modern marketing systems and infrastructure, which farmer-producing companies must provide to facilitate market access and enhance farmers' participation in these systems.

Kumar, Staal, & Singh (2011) examine smallholder dairy farmers' access to modern milk marketing chains in India. Their study reveals that while smallholder farmers face significant barriers in accessing modern milk markets, farmer-producing companies can mitigate these challenges by improving access to infrastructure, providing technical assistance, and negotiating better prices. The research shows that such companies are essential in integrating smallholders into modern agricultural markets, ensuring they receive fair compensation for their produce and improving market efficiency.

Kumar, Scheer, & Steenkamp (1995) analyze the effects of perceived interdependence on dealer attitudes in the context of agricultural markets. The study suggests that mutual trust and perceived benefit in long-term relationships influence farmers' decisions to engage with market actors, including farmer-producing companies. It indicates that fostering interdependence between farmers and companies is critical for developing sustainable agricultural markets. Such relationships can enhance market stability and facilitate the flow of goods from producers to consumers.

Chiv, Nie, Wu, & Tum (2020) explore factors influencing marketing channel choices by smallholder farmers in Cambodia, focusing on seasonal variations in paddy production. The study identifies that access to information, transportation, and market conditions are key determinants of marketing channel decisions. Farmer-producing companies that can provide these resources, particularly in rural and seasonal contexts, can strengthen agricultural market development by improving market linkages and increasing farmers' bargaining power.

Monson, Mainville, & Kuminoff (2008) analyze the decision-making process for direct marketing among small fruit and specialty-product farmers in Virginia. Their study highlights that market access, product differentiation, and consumer demand are pivotal factors in the success of direct marketing strategies. For farmer-producing companies, this implies that offering differentiated products and establishing direct market access channels can drive the development of agricultural markets, particularly for niche products.

Mukiama, Suphanchaimat, & Sriwaranun (2014) investigate factors influencing vegetable farmers' marketing choices in Thailand, focusing on channel characteristics such as price stability and risk factors. Their study indicates that smallholder farmers are more likely to participate in markets that offer reliable pricing and reduced risks. Farmer-producing companies can enhance market development by addressing these factors, such as ensuring price stability and reducing transaction costs, to foster greater participation in formal markets.

Ndoro, Mudhara, & Chimonyo (2015) examine the factors influencing cattle marketing channels in rural South Africa, focusing on transaction costs and market access. Their research suggests that farmers' marketing choices are influenced by factors like proximity to markets, transaction costs, and the availability of buyer networks. The study

underscores the importance of reducing transaction costs and improving infrastructure, roles that farmer-producing companies can play to develop agricultural markets and integrate farmers into larger, formal supply chains.

Niu & Zhou (2015) analyze farmers' participation in "supermarket-farmer direct purchase" models using the Theory of Planned Behavior (TPB). The study reveals that perceived behavioral control, attitudes, and subjective norms are key factors influencing farmers' decisions to engage in direct supply to supermarkets. Farmer-producing companies can foster market development by addressing these factors, offering training and support, and establishing trust with farmers to enable direct linkages with modern retail markets.

Ogunleye & Oladeji (2007) investigate the choice of cocoa market channels among cocoa farmers in Nigeria. Their study emphasizes that market access, price incentives, and trust are key factors influencing farmers' marketing decisions. By enhancing trust and improving access to formal markets, farmer-producing companies can encourage more efficient cocoa market participation, contributing to the development of agricultural markets in Nigeria.

Tsourgianis, Eddison, & Warren (2008) analyze the factors affecting sheep and goat farmers' marketing channel choices in Greece. The study reveals that factors such as product quality, payment terms, and market access significantly influence farmers' decisions. Farmer-producing companies can support agricultural market development by providing better market access, ensuring fair payment practices, and promoting high-quality products, which are essential for strengthening agricultural supply chains.

Tsourgianis et al. (2012) explore marketing strategies for the primary agricultural sector, emphasizing the role of strategic decision-making in enhancing market access. Their research shows that understanding consumer behavior and adapting marketing strategies accordingly is crucial for the success of farmer-producing companies. By implementing effective marketing strategies and ensuring market alignment, these companies can significantly contribute to the development and sustainability of agricultural markets.

## 2.1. OBJECTIVES OF THE STUDY

- 1) To identify the factors influencing developing agriculture market wrt farmer producing companies.
- 2) To find the challenges faced by FPCs face while marketing their produce.

The development of agricultural markets in relation to farmer-producing companies (FPCs) is influenced by a variety of factors, including access to modern infrastructure, market information, financial support, and technological advancements. FPCs can enhance market linkages by providing farmers with better market access, reducing transaction costs, and ensuring fair pricing. However, they face several challenges in marketing their produce, such as inadequate infrastructure, limited access to financing, poor transportation networks, and fluctuating market prices. Additionally, FPCs often struggle with limited bargaining power, especially when dealing with larger market players, and face difficulties in maintaining consistent product quality and meeting consumer demand. These challenges hinder their ability to scale operations and effectively reach broader markets, ultimately limiting their potential to contribute to the growth of agricultural markets. Overcoming these barriers requires targeted support from government bodies, private sector partnerships, and investment in infrastructure and training for farmers and FPCs alike.

## 2.2. HYPOTHESES

H1: The availability of infrastructure, access to finance, and technological adoption positively influence the development of agricultural markets through farmer-producing companies (FPCs).

H2: Lack of market access, poor transportation infrastructure, and limited bargaining power significantly challenge the ability of farmer-producing companies (FPCs) to effectively market their produce.

## 3. RESEARCH METHODOLOGY

The research utilized a quantitative methodology to examine the factors influencing the development of agricultural markets and the challenges faced by farmer-producing companies (FPCs). Data was collected through structured questionnaires administered to directors of FPCs, focusing on their perspectives regarding market development factors and the challenges encountered in marketing their produce. The questionnaire employed Likert scale statements to measure the respondents' agreement on various aspects of market development and challenges faced. Descriptive

statistics were used to summarize the responses, while inferential statistics, specifically the one-sample t-test, was conducted to test the hypotheses regarding the impact of infrastructure, financial access, technology adoption, and other factors on market development, as well as to assess the significance of challenges like market access and transportation on FPCs' marketing effectiveness. The data was analyzed using statistical software, and the results were interpreted to draw conclusions regarding the development of agricultural markets and the obstacles faced by FPCs.

### 3.1. DATA ANALYSIS

**Table 1 The Availability of Modern Infrastructure (E.G., Cold Storage, Transportation) is Crucial for the Success of Farmer-Producing Companies.**

|       |                   | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly Disagree | 16        | 16.0    | 16.0          | 16.0               |
|       | Disagree          | 16        | 16.0    | 16.0          | 32.0               |
|       | Neutral           | 10        | 10.0    | 10.0          | 42.0               |
|       | Agree             | 13        | 13.0    | 13.0          | 55.0               |
|       | Strongly Agree    | 45        | 45.0    | 45.0          | 100.0              |
|       | Total             | 100       | 100.0   | 100.0         |                    |

Table 1 presents the distribution of responses to the statement, "The availability of modern infrastructure (e.g., cold storage, transportation) is crucial for the success of farmer-producing companies." The majority of respondents (45%) strongly agreed with the statement, indicating a strong belief in the importance of infrastructure for the success of farmer-producing companies. Additionally, 13% agreed with the statement, suggesting that a significant portion of respondents sees infrastructure as important but not necessarily critical. A smaller portion, 10%, were neutral, indicating neither agreement nor disagreement. On the other hand, 16% of respondents disagreed and another 16% strongly disagreed, showing that some respondents did not perceive modern infrastructure as crucial for success. The cumulative distribution indicates that 55% of respondents either agreed or strongly agreed with the statement, highlighting the general consensus on the importance of infrastructure for FPC success.

**Table 2 Access to Financial Support and Credit Facilities Significantly Contributes to the Growth of Agricultural Markets Through Fpcs.**

|       |                   | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly Disagree | 9         | 9.0     | 9.0           | 9.0                |
|       | Disagree          | 11        | 11.0    | 11.0          | 20.0               |
|       | Neutral           | 8         | 8.0     | 8.0           | 28.0               |
|       | Agree             | 11        | 11.0    | 11.0          | 39.0               |
|       | Strongly Agree    | 61        | 61.0    | 61.0          | 100.0              |
|       | Total             | 100       | 100.0   | 100.0         |                    |

The distribution of responses to the statement, "Access to financial support and credit facilities significantly contributes to the growth of agricultural markets through FPCs," shows that a majority of respondents (61%) strongly agreed, indicating a strong belief in the importance of financial support for the growth of agricultural markets. Additionally, 11% agreed, reinforcing the idea that financial access is vital for market development. A small portion (8%) were neutral, offering no clear opinion, while 11% disagreed and 9% strongly disagreed, suggesting that some respondents do not consider financial support and credit facilities as significant contributors to market growth. The cumulative percentage of those who agreed or strongly agreed (72%) highlights the general consensus that financial access plays a key role in supporting the growth of agricultural markets through FPCs.



**Table 3 The Adoption of Modern Technologies (E.G., Precision Farming, Digital Platforms) by Farmer-Producing Companies Enhances Market Development.**

|       |                   | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly Disagree | 9         | 9.0     | 9.0           | 9.0                |
|       | Disagree          | 11        | 11.0    | 11.0          | 20.0               |
|       | Neutral           | 5         | 5.0     | 5.0           | 25.0               |
|       | Agree             | 29        | 29.0    | 29.0          | 54.0               |
|       | Strongly Agree    | 46        | 46.0    | 46.0          | 100.0              |
|       | Total             | 100       | 100.0   | 100.0         |                    |

Table 3 presents the responses to the statement, "The adoption of modern technologies (e.g., precision farming, digital platforms) by farmer-producing companies enhances market development." A majority of respondents (46%) strongly agreed, indicating a strong belief that modern technologies significantly contribute to market development. Additionally, 29% agreed with the statement, further reinforcing the importance of technology in enhancing market growth. A small percentage of respondents (5%) were neutral, offering no strong opinion. However, 11% disagreed and 9% strongly disagreed, suggesting that some respondents do not see technology adoption as a critical factor for market development. The cumulative percentage of those who agreed or strongly agreed (75%) highlights the general consensus on the positive impact of modern technologies on agricultural market development through farmer-producing companies.

**Table 4 Farmer-Producing Companies that Invest in Technology Have Better Access to Larger Markets.**

|       |                   | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly Disagree | 9         | 9.0     | 9.0           | 9.0                |
|       | Disagree          | 1         | 1.0     | 1.0           | 10.0               |
|       | Neutral           | 4         | 4.0     | 4.0           | 14.0               |
|       | Agree             | 30        | 30.0    | 30.0          | 44.0               |
|       | Strongly Agree    | 56        | 56.0    | 56.0          | 100.0              |
|       | Total             | 100       | 100.0   | 100.0         |                    |

Table 4 presents the distribution of responses to the statement, "Farmer-producing companies that invest in technology have better access to larger markets." A significant majority of respondents (56%) strongly agreed, reflecting a strong consensus that technological investment plays a crucial role in improving market access for farmer-producing companies. Additionally, 30% agreed, further supporting the idea that technology investment enhances market opportunities. A small percentage (4%) were neutral, expressing neither agreement nor disagreement. Only 1% disagreed, and another 9% strongly disagreed, indicating that a very small portion of respondents did not believe that technological investment leads to better market access. The cumulative percentage of those who agreed or strongly agreed (86%) underscores the general belief that technology is key to improving market access for FPCs.

**Table 5 Government Support in the Form of Subsidies and Policies Is Essential for the Growth of Agricultural Markets Through Fpcs.**

|       |                   | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly Disagree | 12        | 12.0    | 12.0          | 12.0               |
|       | Disagree          | 5         | 5.0     | 5.0           | 17.0               |
|       | Neutral           | 4         | 4.0     | 4.0           | 21.0               |
|       | Agree             | 26        | 26.0    | 26.0          | 47.0               |
|       | Strongly Agree    | 53        | 53.0    | 53.0          | 100.0              |

|  |       |     |       |       |  |
|--|-------|-----|-------|-------|--|
|  | Total | 100 | 100.0 | 100.0 |  |
|--|-------|-----|-------|-------|--|

Table 5 presents the distribution of responses to the statement, "Government support in the form of subsidies and policies is essential for the growth of agricultural markets through FPCs." A majority of respondents (53%) strongly agreed, indicating a widespread belief that government support is crucial for the growth of agricultural markets through farmer-producing companies. Additionally, 26% agreed, further emphasizing the importance of such support. A small percentage of respondents (4%) were neutral, expressing neither agreement nor disagreement, while 5% disagreed and 12% strongly disagreed. These smaller proportions suggest that while the majority views government support as essential, a minority of respondents do not consider it a significant factor. The cumulative percentage of those who agreed or strongly agreed (79%) reflects a strong consensus on the importance of subsidies and policies for the growth of agricultural markets.

**Table 6 Limited Access to Reliable Market Information Is a Significant Challenge Faced by Farmer-Producing Companies in Marketing Their Produce.**

|       |                   | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly Disagree | 8         | 8.0     | 8.0           | 8.0                |
|       | Disagree          | 6         | 6.0     | 6.0           | 14.0               |
|       | Neutral           | 11        | 11.0    | 11.0          | 25.0               |
|       | Agree             | 22        | 22.0    | 22.0          | 47.0               |
|       | Strongly Agree    | 53        | 53.0    | 53.0          | 100.0              |
|       | Total             | 100       | 100.0   | 100.0         |                    |

Table 6 presents the distribution of responses to the statement, "Limited access to reliable market information is a significant challenge faced by farmer-producing companies in marketing their produce." A majority of respondents (53%) strongly agreed, indicating that they perceive limited access to reliable market information as a major challenge for farmer-producing companies. Additionally, 22% agreed, further supporting the view that access to market information is critical for successful marketing. A small portion (11%) were neutral, offering no clear opinion on the matter. On the other hand, 6% disagreed, and 8% strongly disagreed, suggesting that a minor group of respondents did not view limited access to market information as a significant challenge. The cumulative percentage of those who agreed or strongly agreed (75%) highlights the general consensus that access to reliable market information is a key issue impacting FPCs' ability to market their produce effectively.

**Table 7 Inadequate Transportation Infrastructure Hampers the Ability of Farmer-Producing Companies to Reach Broader Markets.**

|       |                   | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly Disagree | 11        | 11.0    | 11.0          | 11.0               |
|       | Disagree          | 11        | 11.0    | 11.0          | 22.0               |
|       | Neutral           | 5         | 5.0     | 5.0           | 27.0               |
|       | Agree             | 27        | 27.0    | 27.0          | 54.0               |
|       | Strongly Agree    | 46        | 46.0    | 46.0          | 100.0              |
|       | Total             | 100       | 100.0   | 100.0         |                    |

Table 7 presents the distribution of responses to the statement, "Inadequate transportation infrastructure hampers the ability of farmer-producing companies to reach broader markets." A majority of respondents (46%) strongly agreed, indicating that they consider inadequate transportation infrastructure to be a significant barrier to market expansion for farmer-producing companies. Additionally, 27% agreed, further emphasizing the importance of transportation infrastructure in enabling FPCs to access larger markets. A smaller proportion (5%) were neutral, indicating no strong

opinion on the matter, while 11% disagreed, and another 11% strongly disagreed, suggesting that a small portion of respondents did not see transportation infrastructure as a major challenge. The cumulative percentage of those who agreed or strongly agreed (73%) reflects a general consensus that inadequate transportation infrastructure limits the ability of FPCs to expand their market reach.

**Table 8 The Fluctuating Prices of Agricultural Products Negatively Affect the Marketing Strategies of Farmer-Producing Companies.**

|       |                   | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly Disagree | 8         | 8.0     | 8.0           | 8.0                |
|       | Disagree          | 1         | 1.0     | 1.0           | 9.0                |
|       | Neutral           | 4         | 4.0     | 4.0           | 13.0               |
|       | Agree             | 38        | 38.0    | 38.0          | 51.0               |
|       | Strongly Agree    | 49        | 49.0    | 49.0          | 100.0              |
|       | Total             | 100       | 100.0   | 100.0         |                    |

Table 8 presents the distribution of responses to the statement, "The fluctuating prices of agricultural products negatively affect the marketing strategies of farmer-producing companies." A significant majority of respondents (49%) strongly agreed, indicating a strong belief that price fluctuations are a major challenge in the development of effective marketing strategies for farmer-producing companies. Additionally, 38% agreed, further supporting the view that price instability negatively impacts marketing efforts. A small percentage (4%) were neutral, showing no clear opinion on the issue. Only 1% disagreed, and 8% strongly disagreed, suggesting that a minor group of respondents did not perceive price fluctuations as a significant issue. The cumulative percentage of those who agreed or strongly agreed (87%) highlights a clear consensus that fluctuating prices of agricultural products have a detrimental effect on the marketing strategies of FPCs.

**Table 9 Farmer-Producing Companies Face Difficulties in Maintaining Consistent Product Quality, Which Impacts their Marketing Effectiveness.**

|       |                   | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly Disagree | 12        | 12.0    | 12.0          | 12.0               |
|       | Disagree          | 5         | 5.0     | 5.0           | 17.0               |
|       | Neutral           | 4         | 4.0     | 4.0           | 21.0               |
|       | Agree             | 29        | 29.0    | 29.0          | 50.0               |
|       | Strongly Agree    | 50        | 50.0    | 50.0          | 100.0              |
|       | Total             | 100       | 100.0   | 100.0         |                    |

Table 9 presents the distribution of responses to the statement, "Farmer-producing companies face difficulties in maintaining consistent product quality, which impacts their marketing effectiveness." A majority of respondents (50%) strongly agreed, indicating that they perceive maintaining consistent product quality as a significant challenge that negatively affects marketing efforts. Additionally, 29% agreed, further supporting the view that quality consistency is crucial for effective marketing. A small portion (4%) were neutral, indicating no clear opinion, while 5% disagreed, and 12% strongly disagreed, suggesting that a minority of respondents did not view quality inconsistency as a major issue. The cumulative percentage of those who agreed or strongly agreed (79%) reflects a strong consensus that maintaining consistent product quality is essential for the marketing success of farmer-producing companies.

**Table 10 The Bargaining Power of Smallholder Farmers is Insufficient when Negotiating with Larger Buyers, Affecting the Market Success of Fpcs.**

|       |                   | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly Disagree | 8         | 8.0     | 8.0           | 8.0                |



|  |                |     |       |       |       |
|--|----------------|-----|-------|-------|-------|
|  | Disagree       | 6   | 6.0   | 6.0   | 14.0  |
|  | Neutral        | 11  | 11.0  | 11.0  | 25.0  |
|  | Agree          | 23  | 23.0  | 23.0  | 48.0  |
|  | Strongly Agree | 52  | 52.0  | 52.0  | 100.0 |
|  | Total          | 100 | 100.0 | 100.0 |       |

Table 10 presents the distribution of responses to the statement, "The bargaining power of smallholder farmers is insufficient when negotiating with larger buyers, affecting the market success of FPCs." A significant majority of respondents (52%) strongly agreed, indicating a widespread belief that the limited bargaining power of smallholder farmers hampers the market success of farmer-producing companies. Additionally, 23% agreed, further emphasizing the issue of weak bargaining power in negotiations with larger buyers. A smaller proportion (11%) were neutral, offering no clear opinion on the matter. However, 6% disagreed, and 8% strongly disagreed, suggesting that a small group of respondents did not view the bargaining power of smallholder farmers as a major barrier. The cumulative percentage of those who agreed or strongly agreed (75%) underscores the general consensus that insufficient bargaining power is a significant challenge for the market success of FPCs.

### 3.2. TESTING OF HYPOTHESES

H1: The availability of infrastructure, access to finance, and technological adoption positively influence the development of agricultural markets through farmer-producing companies (FPCs).

**Table 11 One-Sample Test**

|                                                                                                                                             | Test Value = 3 |    |                 |                 |                                           |        |
|---------------------------------------------------------------------------------------------------------------------------------------------|----------------|----|-----------------|-----------------|-------------------------------------------|--------|
|                                                                                                                                             | t              | df | Sig. (2-tailed) | Mean Difference | 95% Confidence Interval of the Difference |        |
|                                                                                                                                             |                |    |                 |                 | Lower                                     | Upper  |
| The availability of modern infrastructure (e.g., cold storage, transportation) is crucial for the success of farmer-producing companies.    | 3.512          | 99 | .001            | .55000          | .2393                                     | .8607  |
| Access to financial support and credit facilities significantly contributes to the growth of agricultural markets through FPCs.             | 7.432          | 99 | .000            | 1.04000         | .7624                                     | 1.3176 |
| The adoption of modern technologies (e.g., precision farming, digital platforms) by farmer-producing companies enhances market development. | 6.913          | 99 | .000            | .92000          | .6559                                     | 1.1841 |
| Farmer-producing companies that invest in technology have better access to larger markets.                                                  | 10.354         | 99 | .000            | 1.23000         | .9943                                     | 1.4657 |
| Government support in the form of subsidies and policies is essential for the growth of agricultural markets through FPCs.                  | 7.537          | 99 | .000            | 1.03000         | .7588                                     | 1.3012 |

The results from the One-Sample t-test provide significant support for the hypothesis (H1) that the availability of infrastructure, access to finance, and technological adoption positively influence the development of agricultural markets through farmer-producing companies (FPCs). The first statement, "The availability of modern infrastructure (e.g., cold storage, transportation) is crucial for the success of farmer-producing companies," has a t-value of 3.512 and a p-value of 0.001, which shows that respondents strongly agree with the statement. This indicates that modern infrastructure is indeed a critical factor for the success of FPCs, confirming the hypothesis that infrastructure plays a significant role in agricultural market development. The mean difference of 0.55, with a confidence interval ranging from 0.2393 to 0.8607, further supports the positive impact of infrastructure on market success, reinforcing the importance of investments in

facilities such as cold storage and transportation for FPCs to expand their reach. Similarly, the second statement, "Access to financial support and credit facilities significantly contributes to the growth of agricultural markets through FPCs," yields a t-value of 7.432 and a p-value of 0.000, which clearly shows that financial access is perceived as a major contributor to market growth. A mean difference of 1.04, with a confidence interval of 0.7624 to 1.3176, emphasizes the significance of financial support in enabling FPCs to scale operations, invest in technologies, and improve overall market accessibility, thus validating the hypothesis that financial access plays a crucial role in the growth of agricultural markets. The third statement, "The adoption of modern technologies (e.g., precision farming, digital platforms) by farmer-producing companies enhances market development," has a t-value of 6.913 and a p-value of 0.000, strongly supporting the claim that technology adoption is pivotal for the development of agricultural markets. The mean difference of 0.92, with a confidence interval ranging from 0.6559 to 1.1841, further emphasizes that the integration of technological advancements is highly valued as a driver of market development, aligning with the hypothesis that modern technology adoption facilitates the growth of agricultural markets. In addition, the fourth statement, "Farmer-producing companies that invest in technology have better access to larger markets," has a t-value of 10.354 and a p-value of 0.000, which strongly suggests that technological investment is seen as a key factor in improving market access. The mean difference of 1.23, with a confidence interval of 0.9943 to 1.4657, underscores the critical relationship between technology investment and market expansion, further supporting the hypothesis that technology adoption enhances market success for FPCs. Finally, the fifth statement, "Government support in the form of subsidies and policies is essential for the growth of agricultural markets through FPCs," also shows a strong t-value of 7.537 with a p-value of 0.000, suggesting that government policies, subsidies, and regulations are highly valued in fostering agricultural market growth through FPCs. The mean difference of 1.03, with a confidence interval of 0.7588 to 1.3012, highlights the significance of government support in creating an enabling environment for FPCs to thrive, thereby confirming that government intervention is crucial for the development of agricultural markets. Collectively, the results from all five statements strongly support the hypothesis that the availability of infrastructure, access to finance, and technological adoption are all key factors that positively influence the development of agricultural markets through FPCs. The statistical evidence provided demonstrates that these factors are viewed as essential by respondents in facilitating the growth and success of FPCs in agricultural markets.

H2: Lack of market access, poor transportation infrastructure, and limited bargaining power significantly challenge the ability of farmer-producing companies (FPCs) to effectively market their produce.

**Table 12 One-Sample Test**

|                                                                                                                                          | Test Value = 3 |    |                 |                 |                                           |        |
|------------------------------------------------------------------------------------------------------------------------------------------|----------------|----|-----------------|-----------------|-------------------------------------------|--------|
|                                                                                                                                          | t              | df | Sig. (2-tailed) | Mean Difference | 95% Confidence Interval of the Difference |        |
|                                                                                                                                          |                |    |                 |                 | Lower                                     | Upper  |
| Limited access to reliable market information is a significant challenge faced by farmer-producing companies in marketing their produce. | 8.347          | 99 | .000            | 1.06000         | .8080                                     | 1.3120 |
| Inadequate transportation infrastructure hampers the ability of farmer-producing companies to reach broader markets.                     | 6.175          | 99 | .000            | .86000          | .5836                                     | 1.1364 |
| The fluctuating prices of agricultural products negatively affect the marketing strategies of farmer-producing companies.                | 10.574         | 99 | .000            | 1.19000         | .9667                                     | 1.4133 |
| Farmer-producing companies face difficulties in maintaining consistent product quality, which impacts their marketing effectiveness.     | 7.375          | 99 | .000            | 1.00000         | .7310                                     | 1.2690 |
| The bargaining power of smallholder farmers is insufficient when negotiating with larger buyers, affecting the market success of FPCs.   | 8.292          | 99 | .000            | 1.05000         | .7987                                     | 1.3013 |

The results from the One-Sample t-test provide strong evidence for the second hypothesis (H2), which asserts that lack of market access, poor transportation infrastructure, and limited bargaining power significantly challenge the ability of farmer-producing companies (FPCs) to effectively market their produce. The first statement, "Limited access to reliable market information is a significant challenge faced by farmer-producing companies in marketing their produce," shows a t-value of 8.347 and a p-value of 0.000, indicating that limited access to market information is seen as a major barrier for FPCs. The mean difference of 1.06, with a confidence interval ranging from 0.8080 to 1.3120, strongly supports the claim that inadequate market information significantly hampers marketing effectiveness, aligning with the hypothesis that lack of market access challenges FPCs. The second statement, "Inadequate transportation infrastructure hampers the ability of farmer-producing companies to reach broader markets," has a t-value of 6.175 and a p-value of 0.000, confirming that poor transportation infrastructure is viewed as a significant obstacle to market expansion. The mean difference of 0.86, with a confidence interval of 0.5836 to 1.1364, suggests that transportation infrastructure is a critical factor for FPCs to effectively reach larger markets, further validating the hypothesis about transportation challenges. The third statement, "The fluctuating prices of agricultural products negatively affect the marketing strategies of farmer-producing companies," reveals a t-value of 10.574 and a p-value of 0.000, highlighting that price fluctuations are perceived as a significant challenge for FPCs. The mean difference of 1.19, with a confidence interval ranging from 0.9667 to 1.4133, supports the notion that unstable prices disrupt marketing strategies and make it difficult for FPCs to maintain consistent profitability, reinforcing the challenges posed by market access. Similarly, the fourth statement, "Farmer-producing companies face difficulties in maintaining consistent product quality, which impacts their marketing effectiveness," shows a t-value of 7.375 and a p-value of 0.000, further confirming that maintaining product quality is a significant challenge. The mean difference of 1.00, with a confidence interval of 0.7310 to 1.2690, underscores the negative impact of quality inconsistency on the effectiveness of marketing efforts, supporting the hypothesis that quality control challenges hinder marketing success. Finally, the fifth statement, "The bargaining power of smallholder farmers is insufficient when negotiating with larger buyers, affecting the market success of FPCs," also shows a strong t-value of 8.292 and a p-value of 0.000, demonstrating that the lack of bargaining power is seen as a major challenge for FPCs. The mean difference of 1.05, with a confidence interval ranging from 0.7987 to 1.3013, confirms that limited bargaining power negatively affects the market success of FPCs, supporting the assertion that FPCs struggle to compete with larger buyers. Overall, all the statements tested show significant results with p-values less than 0.05, indicating that the challenges identified—market access, transportation infrastructure, price fluctuations, product quality, and bargaining power—are perceived as major factors that hinder the ability of farmer-producing companies to effectively market their produce. These results strongly validate the second hypothesis.

#### 4. FINDINGS

The findings of this study reveal significant insights into the factors influencing the development of agricultural markets through farmer-producing companies (FPCs), as well as the challenges they face in marketing their produce. The results strongly support the hypothesis that infrastructure, access to finance, and technological adoption are essential for the growth and success of FPCs. Modern infrastructure, such as cold storage and transportation facilities, was identified as a crucial element for FPCs to operate efficiently and expand their market reach, with 53% of respondents strongly agreeing that it is vital for their success. Financial access and credit facilities were also found to significantly contribute to market growth, with 61% of respondents strongly agreeing that such financial support enables FPCs to scale up operations, invest in technology, and improve overall market access. Technology adoption, such as precision farming and digital platforms, was viewed as a key driver in enhancing market development, with 75% of respondents agreeing or strongly agreeing that technological integration enables better access to markets and improved operational efficiency. Moreover, the results indicate that government support in the form of subsidies and policies plays a vital role in fostering market growth, with 79% of respondents recognizing the importance of supportive policies for FPCs to succeed. Collectively, these findings suggest that the availability of modern infrastructure, access to financial resources, and adoption of technology are the primary factors that positively influence the development of agricultural markets through farmer-producing companies.

On the other hand, the study highlights several significant challenges faced by FPCs in marketing their produce, with limited market access, inadequate transportation infrastructure, fluctuating prices, product quality consistency, and weak bargaining power being the major obstacles. A strong consensus emerged that limited access to reliable market information is a substantial barrier for FPCs, with 75% of respondents agreeing that the lack of timely and accurate

market data hampers their ability to make informed marketing decisions. Poor transportation infrastructure was also identified as a critical challenge, with 73% of respondents agreeing that inadequate transport facilities hinder the ability of FPCs to reach broader markets and reduce their competitiveness. The fluctuating prices of agricultural products were another major issue, as 87% of respondents agreed that price volatility disrupts FPCs' marketing strategies and affects their profitability. Furthermore, 79% of respondents agreed that difficulties in maintaining consistent product quality pose a significant challenge to marketing effectiveness, as inconsistent quality can erode trust among consumers and buyers. Lastly, the lack of bargaining power of smallholder farmers was considered a major constraint, with 75% of respondents agreeing that FPCs struggle to negotiate fair prices with larger buyers due to their limited collective bargaining power. These findings underscore the complex and interconnected challenges that FPCs face in achieving effective marketing, highlighting the need for targeted interventions, such as improved infrastructure, better financial access, and support in building bargaining power, to enable these companies to thrive in competitive markets.

## 5. CONCLUSION

The study concludes that the development of agricultural markets through farmer-producing companies (FPCs) is significantly influenced by key factors such as infrastructure, access to finance, technological adoption, and government support. Modern infrastructure, including transportation and storage facilities, emerged as a fundamental requirement for FPCs to succeed, enabling them to efficiently distribute products and expand market reach. Access to financial support and credit facilities was also highlighted as critical for scaling operations and investing in modern technologies, which in turn facilitated better market access and enhanced productivity. Furthermore, the adoption of modern technologies, such as digital platforms and precision farming techniques, played a pivotal role in boosting market development by improving operational efficiencies and allowing FPCs to cater to larger markets. Lastly, the importance of government policies and subsidies in supporting FPCs' growth was underscored, indicating that targeted policy interventions can create a conducive environment for FPCs to thrive. In conclusion, these factors collectively enable FPCs to overcome the constraints faced by smallholder farmers and significantly contribute to the development of agricultural markets.

However, the study also reveals substantial challenges that hinder the ability of FPCs to effectively market their produce. Limited access to market information, inadequate transportation infrastructure, fluctuating agricultural prices, product quality inconsistencies, and weak bargaining power emerged as the primary obstacles preventing FPCs from reaching broader markets and achieving long-term sustainability. The lack of reliable market information was found to be a significant barrier, as it hampers decision-making and prevents FPCs from adapting to market dynamics. Poor transportation infrastructure further exacerbates this issue by limiting the geographical reach of FPCs and increasing costs. Price fluctuations, on the other hand, destabilize marketing strategies and threaten the profitability of FPCs. The difficulty in maintaining consistent product quality leads to challenges in building consumer trust and ensures stable market demand. Additionally, the limited bargaining power of smallholder farmers prevents FPCs from negotiating favorable deals with larger buyers, thereby reducing their competitiveness in the marketplace. These challenges highlight the need for comprehensive solutions that address both infrastructural and financial barriers, while also empowering farmers to negotiate better terms and access broader markets.

The implications of this study are far-reaching for policymakers, FPC leaders, and stakeholders in the agricultural sector. Policymakers need to focus on improving infrastructure, providing financial support, and creating favorable policies that help FPCs scale up their operations and improve market access. Additionally, targeted interventions such as better access to market information, improved transportation networks, and investments in technology are crucial for addressing the identified challenges. For FPC leaders, the findings suggest the need to prioritize investments in technology, improve quality control mechanisms, and collaborate with government agencies to enhance infrastructure and negotiate better pricing agreements with larger buyers. Future research should explore the specific roles of farmer producer organizations (FPOs) in mitigating these challenges and fostering the growth of FPCs. Additionally, studies can investigate the effectiveness of government policies in enhancing the competitiveness of FPCs, particularly in rural areas. Research focusing on the impact of digital tools and platforms in facilitating market access for FPCs, as well as the role of cooperative models in strengthening bargaining power, would provide valuable insights for furthering the development of agricultural markets in emerging economies.

## CONFLICT OF INTERESTS

None.

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