

# A Study of Farmers Direct Marketing: Assessing the Factors for the Home to Land Approach

Anima Karmakar<sup>1\*</sup> Ziarat Hossain Khan<sup>2</sup> Md. Mustaqim Roshid<sup>3</sup> Farjana Bashar Shamme<sup>3</sup>  
Md. Ashiqur Rahman<sup>3</sup>

1. Department of Business Administration, Varendra University, Rajshahi, Bangladesh

2. Faculty of Business Administration, American International University-Bangladesh, Dhaka, Bangladesh

3. Open Researcher (Student), Department of Business Administration, Varendra University, Rajshahi, Bangladesh

\* E-mail of the corresponding author: [anima.karmakar67@gmail.com](mailto:anima.karmakar67@gmail.com)

## Abstract

The Bangladesh Economic Review 2022 states that 4.03 percent of the overall budget is spent on agriculture, food security, fisheries, and livestock. Total subsidies for farmers amount to Tk 9,500 crore, while incentives for using new machinery amount to Tk 3,220 crore. The government of Bangladesh has also taken other measures to help the farmers. However, farmers are not actually in a particularly prosperous position. As a nation built on agriculture, improving a lot of farmers is essential to Bangladesh's economic health. The research aims to assess whether farmers can successfully implement a different approach to selling. One hundred twenty key opinion leaders of an 8-10 person farmers' organization were surveyed to provide evidence for the elements that affect direct sales. Age, money, knowledge, and technical literacy were determined to be demographic parameters that have an impact on the effectiveness of agricultural digitalization in general. To meet the minimum requirements for selling their goods to consumers in their homes, farmers must meet certain conditions. Four hypotheses have been developed to discover the linkage between farmers' direct market participation and support in financial, technological, supply chain management, and marketing mix support. The reliability test, correlation test, descriptive statistics, and regression analysis have been performed. The findings show that technical support has more positive relationships with farmers' direct marketing, whereas other independent variables exhibit weaker positive relationships with the dependent variable. In addition, farmers believe they deserve financial compensation for their time and effort in responding to the survey.

**Keywords:** Farmer, Direct Marketing, Technology, Supply chain management, Marketing mix.

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## 1. Introduction

The tropical climate, fertile soil, ample water, and abundant fish, wildlife, and fruit indicate that Bengal is a perfect living place. Besides this, many countries import from Bengal because of the expansion of muslin production, sericulture, and the emergence of several other crafts. (Islam K., 1966). Today's Bangladesh has undergone several stages like ancient Bengal, Bengal sultan, Mughal Bengal, British Bengal, east Pakistan and now Bangladesh. In every stage, some changes occurred, but the golden glow began to wane during the British period, and the sector suffered a lot during the Pakistan period. After sacrificing a lot, this country is now on the way to economic stability.

Agriculture significantly impacts the economy as a significant part of GDP, and employment rates come from here. Although brutal, the financial improvement of the farmer in this country has not yet come to real terms. After the 1971 war, Bangladesh tried to develop agriculture again, but the actual condition of farmers had not yet appropriately improved.

Rural communities' living standards and incomes have improved due to mechanization's effect on agricultural jobs and the growth of rural non-farming enterprises, manufacturing, and the service sector. (Islam, Ghosh, & Podder, 2022).

Moreover, COVID-19 has caused new disparities in the food system and reduced agricultural, livestock, and fishing profits. The pandemic has highlighted the precarious state of our food supply. So, we should have emphasized how important it is to build strong agricultural systems that include mitigation techniques and backup plans. To alleviate this problem, agricultural machinery was used, but some farmers had trouble using it due to a lack of training (Khan, et al., 2021).

Both tribal farmers and non-tribal farmers agree that learning how to use new machinery is crucial. Researchers found that most farmers in the areas they looked at did not use many modern farming techniques. Better irrigation systems also give people more chances to make a living differently. It was also found that having a higher level of education and being a member of a formal social organization helped to broaden the range of ways to make a living. In conclusion, the land-to-person ratio dramatically affects how many different economic activities tribal members can do. Modernizing agriculture is a clear and promising way to raise living

standards in low-income areas. (Jannat, Islam, Alamgir, Al Raf, & Ahmed, 2019).

The primary goal of this research is to examine the "Feasibility of Farmers for Direct Marketing" and the farmers' opinion of the "Home to Land" Approach, which entails selling produce directly to the point of contact with the buyer. Besides, focusing on areas highly needed to improve farmers' financial conditions.

## 2. Literature Review

### 2.1 Direct marketing

A vast number of potential buyers are the focus of mass marketing, while direct marketing focuses on the target or potential customers. This is also a crucial part of direct marketing since marketers seek business standards inside direct marketing models (Bose & Chen, 2009).

Direct marketing faces both challenges and opportunities from the proliferation of social media platforms. When using social platforms, businesses should talk to the people they want to reach directly and indirectly. Since user-generated content isn't heavily moderated on social media platforms, anyone can become an expert in direct marketing and persuade people who might not be able to tell how good their work is. (Palmer & Koenig-Lewis, 2009).

Direct marketing helps the producer make more money by cutting inefficient pricing and double marginalization. This balance of manufacturer pulls, and retailer push is favorable for the store. In this case, when the direct channel opens, the retailer is forced to lower prices, which boosts the retail channel's demand. Even when there are no direct sales, the producer still makes more money. The updated direct market will lower wholesale prices, perhaps increasing profits for retailers. (Chiang, Chhajed, & Hess, 2003).

Farmers in Maryland were very adaptable, which gave them a significant advantage in their distribution networks, which included an online market with prepackaged orders. Farmers who only had one way to sell their goods said that CSAs (community-supported agriculture) was the most common way they did so. Farmers who had more than one way to sell their goods did a mix of sales at farmers' markets and restaurants. Most farmers who had three ways to sell their goods said they did so through CSAs, farmers' markets, and restaurants (Bachman, Lupolt, Strauss, Kennedy, & Nachman, 2021).

It was thought that consumers' willingness to use this new direct marketing would depend on how they saw three aspects of innovation and how much they used their mobile phones. This was based on the fact that mobile phones are new and have only recently been used as a direct marketing tool (Roach, 2009).

Buyers and sellers actively look for each other, but for different reasons. Farms are concerned about reducing losses, while customers are worried about consumer health. Direct marketing gave businesses and customers a new way to do business that was good for both. (Yousefian, Soubadra Devy, Geetha, & Dittrich, 2021).

The study investigates how farmers can benefit financially and socially from being members of local food networks. It shows that direct-market farmers are happy with their jobs, despite facing harsh conditions like high-stress levels, heavy workloads, and stiff competition. Even though there has been a lot of research into what makes people happy at work, the current models aren't perfect for the agricultural and direct sales industries because they were made for workers in hierarchical organizations. Farming is a "high-risk" job because farmers have many cases of depression and suicide. (Azima & Mundler, 2022).

Indian farmers use social media for socializing and pleasure. Young farmers see social media as a cost-effective, high-exposure marketing tool for agriproducts. Social media use is low, and young farmers use social media to promote their products. Although many Indian farmers are already active on various social networking sites, their use of SM (social media) as a marketing tool is still in its experimental stages. This is because fewer people are knowledgeable about the benefits of SM for promoting agricultural goods (Vasumathi & Arun, 2021).

### 2.2 Financial support from the government and NGOs

Government and non-governmental organization (NGO) efforts have resulted in a two- to threefold increase in agricultural production in Bangladesh over the last several economic years. Nonetheless, it demonstrates that high agricultural output cannot be maintained without an effective agriculture marketing system. Agriculture marketing need changes for sustainable development and decreases profitability by getting a low price for their products leading to an unwillingness among farmers. The government should take action against hoarders and market manipulators, but should also increase the producer's share, decrease the number of mediators, and limit marketing costs and unethical tactics when selling agricultural products. (Abdullah & Hossain, 2013).

So far, Zambia has been able to Both those who receive and those who do not receive external benefits from joining a farmer's group to see increases in their output, market share, and income as a result of their membership. The Zambian FOs seem to offer advantages beyond the subsidy program's original goal, and these advantages might be exploited to advance the economic participation of women and the productivity of smallholder farms. (Minah, 2021).

The Chinese equivalent of cooperatives, FPCs supply inputs, oversee production, promote technology, and

are heavily involved in marketing, among other activities. Most of the benefits that cooperative farmers in other nations offer are also available through FPCs. It includes providing members with materials and technology, helping them market their products, and even extending some financing to them. (Deng, Huang, Xu, & Rozelle, 2010).

The farmer needs a return on investment. Traditional farmers use word of mouth and newspapers to sell the product. Farmer shows direct marketing as an alternative outlet instead traditional outlet (Nayga Jr., Fabian, Thatch, & Wanzala, 1995).

Mixed farming can develop pre-production and post-production. Empowerment is a system by which farmers can take part as individuals, in groups, and the transportation of solutions to their problems. The role of an eco-techno premiership in the administration of the diversified farming system's social capital was investigated in a study aimed at empowering farmer communities. (Santosa & Suyanto, 2016).

### *2.3 Technological support*

The widespread adoption of digital agriculture is expected to raise agricultural productivity and incomes worldwide significantly. According to research, digital agriculture's success in India depends on several factors. These include affordable technology, user-friendly portable gear, pay-per-use renting models, legislative support, and tapping into the strength of farmer collectives. (Beriya, 2020).

Appropriate agricultural technology in farming has relied heavily on factors such as small farmer output, access to markets, secure land tenure, infrastructure, the supply of loans, and other support services. (Bebbington, Quisbert, & Trujillo, 1996).

Several studies, including Austria, have found that it is feasible to sell crops using an online platform or a working online store directly. Facebook and Instagram are two other social media video platforms regarded as essential marketing (Csordás, János Pancsira, Péter Lengyel, Füzési, & Felföldi, 2022).

The Zambian government's maintaining a solid monitoring and evaluation system and implementing FISP through an e-voucher could further enhance the effectiveness and efficiency of the program (Mofya-Mukuka, Kabwe, Kuteya, & Mason, 2013).

The Internet and pervasive technologies like cell phones make it easier to get in touch with and talk to customers. It was thought that consumers' willingness to use this new direct marketing would depend on how they saw three aspects of innovation and how much they used their mobile phones. This was based on the fact that mobile phones are new and have only recently been used as a direct marketing tool (Roach, 2009).

### *2.4 Supply Chain Management*

The coordinated supply chain is more visible than in the traditional market. Still, exclusions indicate that there is a market failure and public policy weak the competitiveness of small-scale farmers (Van der Meer, 2006).

In Belgium, there is a greater need than available resources, but an efficient distribution network has yet to be set up. It's a significant issue in organic farming, and it takes much effort to open up new markets or negotiate with new merchants. If more farmers shift to organic practices, transition and negotiation costs can be reduced, making it easier to set up a low-cost supply chain. (Baecke, Rogiers, Cock, & Huylenbroeck, 2002).

Creating a sustainable food supply chain can give benefit businesses involved and farmers to consumers. Although creating a niche market is better than creating a multi-niche market. Multi stakeholders are working with the government, NGOs, farmers, academics, and innovators to raise the baseline for supply chain commodities (Smith, 2007).

Long-term competitiveness in agriculture is threatened by several factors, including political instability, a lack of information about raw material quality, feed formation, machine handling, selection, reliance on imported raw materials, limited application of the law on feed, and ongoing market consolidation (Mamun-Ur-Rashid, M.; Belton, B, Phillips, M, & Rosentrater, K.A, 2013).

Without any middlemen, the manufacturer still comes out ahead. Introducing a direct sales channel causes retailers to reduce prices, which boosts retail sales. The new direct market will lower wholesale prices, perhaps increasing profits for retailers. (Chiang, Chhajed, & Hess, 2003).

### *2.5 Assessing Marketing Mix*

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Product, price, location, advertising, promotion, staff, procedures, and infrastructure are all parts of the marketing mix. Farmers use traditional ways of marketing, but they should use modern technology like blockchain to increase the production rate (Chaipattarawong, 2021).

A study was conducted to determine how people felt about local foods and how new marketing methods could bring farmers and consumers together. The survey results suggest that consumers in smaller cities may be

more supportive of local producers. Markets can help build better marketing tactics and target specific consumer groups at different locations. This could reduce physical and social distances, boost food system planners and inventive capability, and sustain local food systems (Wang, 2014).

An often-overlooked facet of today's farming industry is farmers' participation in direct food sales. Supermarkets and organic food stores have expanded their selection of locally sourced, premium products to compete with other retail models. (Spiller, Zühlsdorf, & Mellin, 2007).

Business requirements such as farmer skills & characteristics, Legal regulations like licensing, and setting standards are the primary criteria for successful farm marketing. Location is one of the significant challenges for farmers direct selling their products to customers. A study on German livestock owners reveals that hygiene regulations, self-motivation, customer communications, and investment are severe issues regarding farmer-to-consumer direct marketing (Wille, Barklage, Britta, Spiller, Achim, & von Meyer-Höfer, Marie, 2018).

Customers are more likely to visit the location of the Fish Farmer Group if the group uses digital marketing, increases promotional content, and posts promotional content as frequently as possible on social media. (Devi, Wardani, & Putri, 2021).

Going direct marketing may raise income levels that help promote living standards. In addition, it transformed the rural economy into a modern shape in Northern Ghana (Donkor, Garnevska, Siddique, & Donkor, 2021).

In contrast to large farms, small farms are more likely to sell directly to end users (consumers, retailers, and restaurants), whereas medium-sized farmers are more likely to sell through mediators and wholesalers. Some studies have shown that new farmers are more likely to sell their products directly to consumers. For whatever reason, new farmers lean toward retail outlets. (Plakias, Demko, & Katchova, 2019).

Most livestock producers don't know about direct farm participation; moreover, the location is the most challenging term for farmers to implement direct farm marketing. Personal barriers, including cleanliness requirements, self-motivation, customer communication, and investment, were more issues for cattle owners (Bose & Chen, 2009).

Mass marketing targets a large group of customers, while direct marketing focuses on the target or potential customers. This is also a crucial part of direct marketing since marketers seek business standards inside direct marketing models (Bose & Chen, 2009)

As social media platforms continue to grow in popularity, they pose both challenges and opportunities for direct marketing. Companies should have two-way conversations with their target audiences on social media. Since user-generated content isn't heavily moderated on social media platforms, anyone can become an expert in direct marketing and persuade people who might not be able to tell how good their work is (Palmer & Koenig-Lewis, 2009).

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Farmers can benefit financially and socially from being members of local food networks. Studies show that direct-market farmers are happy with their jobs, despite facing harsh conditions like high-stress levels, heavy workloads, and stiff competition.

Indian farmers use social media for socializing and pleasure. Young farmers see social media as a cost-effective, high-exposure marketing tool for agriproducts. Social media use is low. This is because fewer people are knowledgeable about the benefits of SM for promoting agricultural goods. Many Indian farmers are already active on various social networking sites, and their use of SM (social media) as a marketing tool is still in its experimental stages (Vasumathi & Arun, 2021).

### 3. Methodology

The farmers in the northern Bangladesh region engaged in this research study. Before the survey, a brief discussion about the scope of direct marketing of farmers was given. A team of students has been tasked with conducting a field survey. The questions being asked are designed to elicit responses using five Likert scales, each of which carries five points of evaluation. One hundred twenty complete questionnaires have been taken for analysis. Items were sorted on a Likert scale of one to five with five being the strongest agreement and one being the strongest disagreement.

An opinion leader has been selected from a group of farmers consisting of eight to ten members. The questionnaire for the survey was designed using the findings from the literature study on farmer marketing. The first section of this survey includes questions related to the respondents' demographic information, and the other part includes the items that measure farmers' feasibility toward direct marketing. The study's systematic strategy was inspired from another research (Islam, Rodrick, & Khan, 2022).

For analyzing data following method was used:

- I. Cronbach's Alpha Correlation test
- II. Descriptive statistics:
- III. Pearson's Correlation analysis

**3.1 Sample Characteristics:**

The total numbers of farmers are too rich to contact. We select our survey area only in the northern part; most specifically, it concerns the rural area beside Rajshahi city. The farmers' group leader was selected for the interview to ensure the right sets of individuals participated in the research. For every group leader specifically, we can note it as a spokesperson of a team of farmers consisting of 8-10 members.

**3.2 Research Design**

Adopting the Unified theory of acceptance and use of technology by Venkatesh et al. (2003), the following model represents the four independent variables and one dependent variable. Financial Support (FS), Technical Support (TS), Supply Chain Management Support (SCMS), and Marketing Mix Support (FP) works as IV & Farmer's Direct Marketing Participate (DM) acts as DV.

**3.3 Hypotheses:**

This study aimed to test four hypotheses derived from the existing literature.

- H<sub>1</sub>: There is a relationship between Financial Support (FS) and Farmer's Direct Marketing Participation (DM).
- H<sub>2</sub>: There is a relationship between Technical Support (TS) and Farmer's Direct Marketing Participation (DM).
- H<sub>3</sub>: There is a relationship between Supply Chain Management Support (SCMS) and Farmer's Direct Marketing Participation (DM).
- H<sub>4</sub>: There is a relationship between Marketing Mix Support (FP) and Farmer's Direct Marketing Participation (DM).

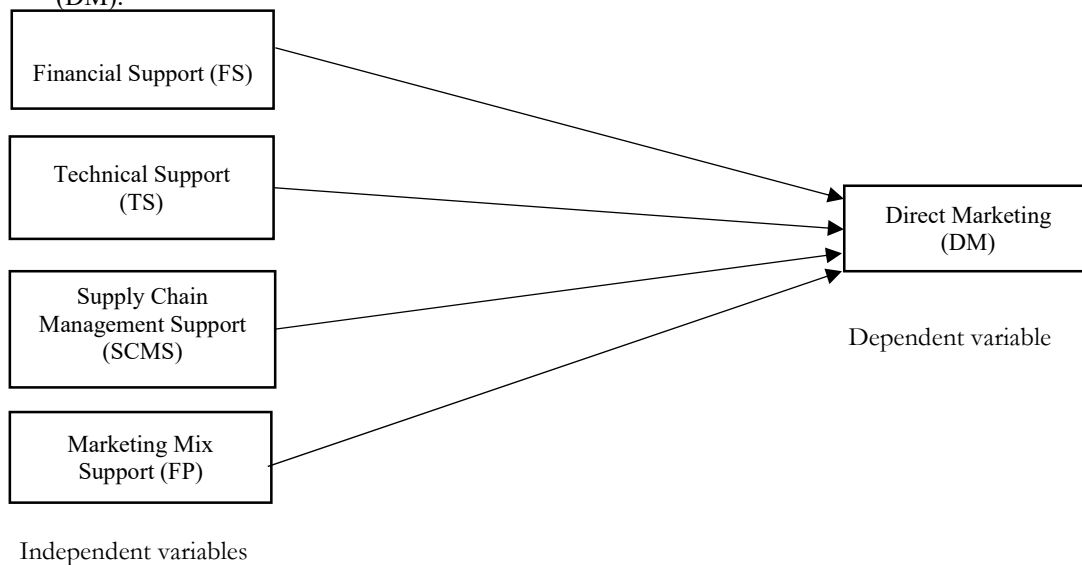


Figure 3.1: Research Model

Source: Adopting from Unified theory of acceptance and use of technology, Venkatesh et al. (2003)

**4. Data Analysis and Findings**

**4.1 Reliability test**

A reliability test was conducted, and the questionnaire used in this study is accepted in this context as its Cronbach Alpha value is 0.836 (shown in Table 4.1).

Table 4.1: Reliability Statistics

Cronbach's Alpha	N of Items
0.836	5

**4.2 Demographic Information:**

Our demographic information shows that 99.2% of respondents are male, 67.5% have an age range between 31-60, and only 19.2% indicate the range 16-30. it means the minimum number of respondents belongs to the young

generation. In education qualification, maximum farmers have below standard education qualification. only 2% have master's degrees as adopting direct marketing requires lots of technical knowledge and primary education. Again, educational qualification plays a vital role in using appropriate technology in direct marketing. But most of our farmers' educational qualifications are incompatible with direct marketing.

70.8% of farmers own land. In taking a lease, we can say that farmers desire to grow more crops there. The attitude of farmers is to earn more profit. But on their land, they somehow only think if they can produce the crops according to their needs and earn the rest of the profit. As a result, it has been found that 53.8% of farmers are for subsistence, and 46.2% are for business purposes.

Income is a significant source to invest in direct marketing. Our sample reveals that most farmers have an income range from taka 11k to 30k. surprisingly, no farmers have above taka one lac income.

Social media is essential wherever digital marketing takes place. But most farmers do not know (70.8%) what social media is. The proportion of farmers who use non-smartphones (63.6%) is high. Direct marketing is the means of communication for farmers. But they don't have smartphones.

Table 4.2: Demographic information and profile of the respondents

Attribute	Category	Frequency	Percentage (%)
<b>Age</b>	0-15	0	0
	16-31	23	19.2
	32-47	39	32.5
	48-63	42	35
	More than 64	16	13.3
<b>Gender</b>	Male	119	99.2
	Female	1	0.8
<b>Education Qualification</b>	Below Class 5	58	48.3
	SSC	42	35
	HSC	5	4.2
	Graduate	12	10
	Master's	3	2.5
	Up To Postgraduate	0	
<b>Land Pattern</b>	Own	85	70.8
	Lease	35	29.2
<b>Income (Monthly) (In Taka)</b>	0-10K	29	24.2
	11K-30K	86	71.7
	31K-60K	3	2.5
	61K-99K	2	1.7
	1 Lac—1.5 Lac	0	
	More than 1.5 Lac	0	
<b>Social Media</b>	Facebook	33	27.5
	YouTube	1	0.8
	Apps	1	0.8
	None	85	70.8
<b>Types of Agriculture</b>	Subsistence	64	53.8
	Business Purpose	55	46.2
<b>Mood of Communication</b>	Smartphone	37	30.5
	Non-smart phone	75	63.6
	Nothing	7	5.9

Table 4.3: Descriptive Analysis of the Feasibility of Farmers for Direct Marketing

Items	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
<b>Financial Support (FS)</b>					
I Get sufficient help from govt.	10.1	47.1	19.3	15.1	8.4
Govt. provide me proper loan facilities.	10.9	41.2	31.9	9.2	
I found NGOs are more supportive.	9.2	43.7	29.4	13.4	
A cooperative society is kind enough to provide loan facilities.	10.9	32.8	41.2	1.8	
I Get proper Loan support from banks.	10.9	53.8	20.2	10.9	
<b>Technical Support (TS)</b>					
I Have sufficient knowledge about technology that is used in agriculture.		26.9	35.3	28.6	9.2
I Have sufficient knowledge about E-commerce.		10.1	17.6	51.3	21
Training in digital marketing will help me to adopt direct marketing.	11.8	53.8	16	11.8	
I have knowledge about using "APPs"?		20.2	9.2	42	26.1
<b>Supply Chain Management Support (SCMS)</b>					
For me, selling final products directly to customers is expensive in terms of transportation.	8.4	62.2	11.8	15.1	
I think it is possible to reach the customer's home from the land directly.	13.6	55.1	12.7	14.4	
I will earn more profit if there is no dealer between you and the Consumers.	21	49.6	15.1	13.4	
Using social media, I think product selling is possible.	7.6	31.1	26.9	29.4	
Selling products through a dealership is easy for me.	17.6	50.4	10.1	21.8	
<b>Marketing Mix Support (FP)</b>					
Root crops are possible to send directly to the customer's home.	16.8	42.9	15.1	25.2	
I think direct selling is more costly than traditional selling.	22.7	37.8	23.5	16	
I have sufficient facilities for using cold storage.	10.1	50.4	16	16.8	
I have knowledge about product promotion.	7.6	28.8	21.2	30.5	11.9
Selling products using digital marketing is profitable for me.	9.2	57.1	23.5	9.2	
I have an interest in selling my crops directly from the land to the customer's home.	16.8	57.1	13.4	12.6	
<b>Farmer's Direct Marketing Participation (DM)</b>					
I think Direct marketing participation is possible if I have a personal van for a product carrying to the customer.	18.5	54.6	14.3	12.6	
Direct marketing participation is possible if I have cold storage facilities to protect my crops.	16	64.7	10.9	8.4	
Having a smartphone makes a possibility for Direct marketing.	16	52.9	21.8		
sufficient electricity helps for conducting Direct marketing.	16.8	55.5	24.4		
Direct marketing participation is possible if I have my own land.	28.6	50.4	14.3		
Direct marketing participation is possible if I have the scope to communicate with my customers directly.	16	70.6			
Direct marketing participation is possible if I have enough money to conduct promotional activities.	18.5	47.1	21.8	10.9	
Direct marketing participation is possible if I owe my own shop?	30.3	52.1		9.2	

Regarding getting loans from the government (47%), farmers said they get enough help and loans from the government. NGOs provide aid and trade. Farmers receive small amounts of assistance from cooperative societies. Since the government supports it, we can say that digital marketing has a huge potential to succeed soon. Because the government is supporting it and NGOs are also agreeing to it.

From the data in the table above, it's clear that most farmers believe a "land-to-home" marketing strategy would be effective. Many farmers, for example, are interested in the land-to-home approach. Many farmers agree that if there were no 3rd party dealers, they would gain more profit. Farmers can experience pride in their work and a solid connection to the land through this.

Direct-to-consumer marketing consists of marketing arrangements in which producers sell agricultural goods directly to ultimate customers, such as through farmers' markets. This study aims at farmers' feasibility for direct marketing: A land-to-home approach. Based on the data analysis, this study reveals

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Authors see the vast potential among farmers in technology. Above all, technology is essential for direct marketing practice and modern agriculture. Most farmers are willing to take on digital marketing and e-commerce if the farmer gets proper training for all of this. In this study, the authors point out that the land-to-home method can be improved with the help of proper training.

From the data in the table above, it's clear that most farmers believe a "land-to-home" marketing strategy would be effective. Farmers can experience pride in their work and a solid connection to the land through this. On the other hand, direct selling is more profitable if there is no dealer between farmers and customers. Most farmers agree with that.

Farmers are highly interested in the land-to-home approach. Farmers said that direct selling is costly, but farmers said that root crops could be sent directly to the customer's home. Also, farmers have sufficient knowledge about cold storage. Farmers don't know much about promoting their products, but they will be successful if they get enough training. So, in the future, direct marketing will be a success.

There are no government programs to encourage the development of new kinds of marketing practices. Even though farmers have a lot of room for improvement, the country still can't meet its needs because it doesn't have enough new varieties, modern methods, and storage facilities. It can easily do direct marketing and meet its needs if it has the proper cold storage, electricity, land, a smartphone, a shop, and money for advertising. Farmers agree with that.

Farmers are happy with their direct marketing, and customers feel more connected to them. In addition, most farmers agreed that they benefit from the circumstance when they receive help from the government, an NGO, or a cooperative society to disseminate their expertise to their peers. This lets them keep up the image of an NGO, a cooperative society, or the government in the larger community.

*Descriptive Analysis:*

Define the population that the data is meant to represent and provide a summary of its primary characteristics using descriptive statistics (Mann, 1995). Descriptive statistics is a quantitative field that aims to summarize the most salient aspects of a dataset (Mann, 1995). In addition to summarizing a sample relatively, it can also extrapolate the data to investigate the entire population that the sample is meant to represent.

Table 4.4: Descriptive Statistics

	Financial Support	Technical Support	Supply Chain	Marketing Mix Support	Direct Marketing
Minimum	6.00	4.00	6.00	14.00	18.00
Maximum	23.00	17.00	23.00	32.00	37.00
Mean	17.04	10.81	17.61	24.44	30.96
Std. Deviation	3.95	2.87	3.63	4.53	3.88
Skewness	-0.81	-0.03	-1.07	-0.62	-1.41

Among the five variables, two variables, SC and DM, slightly represent left-skewed; the remaining three variables are between -1.0 to +1.0. Data are moderately skewed. The kurtosis value shows the normal distribution of the data except for the DV.

*4.3 Correlation Analysis:*

The Pearson correlation coefficient measures the linear correlation between the independent and dependent variables in statistics. A perfect positive correlation is represented by a number of 1, while a perfect negative correlation is represented by a value of -1. The following table displays the Pearson correlation scales that describe how closely the independent and dependent variables are related. A set of hypotheses is presented to justify the meaningful connection between the two variables. The Pearson correlation coefficient assesses the



two variables' linear relationship condition. If the link between the variables is not linear, then the correlation coefficient cannot properly describe the strength of the relationship. When there is a nonlinear relationship between variables, the correlation coefficient does not give a true picture of how strongly they are linked.

Table 4.5: Pearson's Correlation Scale among each of the dependent and independent variables

	Financial Support	Technical Support	Supply Chain	Marketing Mix Support	Direct Marketing
Financial Support	1				
Technical Support	0.282**	1			
Supply Chain	0.621**	0.435**	1		
Marketing Mix Support	0.710**	0.270**	0.606**	1	
Direct Marketing	0.600**	0.209*	0.492**	0.679**	1

\*\* . The significance level for the correlation is 0.01. (2-tailed).

\*. Significance of a correlation at the 5% level (2-tailed).

All the variable pairs have positive Pearson Coefficient (r) values, which shows that all variables have a positive relationship.) Farmer's direct marketing participation (DM) has a positive relationship with Financial Support (FS), Technical Support (TS), Supply Chain (SC), Marketing Mix Support (FP)

Financial Support (FS) and Marketing Mix Support (FP) had the greatest correlation (0.710) of all the variable pairs. Other significant relationships include those between TS & FS (0.282), SC & FS (0.621), and FP & SC (0.601). In contrast, the smallest correlation (0.322) is found between DM & TS.

### 5.5 Regression Analysis:

Hypothesized associations between independent and dependent variables were investigated by SPSS regression analyses. Standardized and unstandardized regression analysis is being implemented further to investigate the relationship between the independent and dependent variables.

Table 4.6: Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.701a	0.492	0.474	2.81

a. Predictors: (Constant), Marketing Mix Support, Technical Support, Supply Chain, Financial Support

Table 4.7: ANOVA<sup>a</sup>

Sum of Squares	df	Mean Square	F	Sig.
Regression	878.49	4.00	219.62	27.81
Residual	908.30	115.00	7.90	
Total	1786.79	119.00		

a. Dependent Variable: Direct Marketing

b. Predictors: (Constant), Marketing Mix Support, Technical Support, Supply Chain, Financial Support

Table 4.8: Coefficients<sup>a</sup>

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	16.06	1.57		10.20	0.00
Financial Support	0.21	0.10	0.22	2.14	0.04
Technical Support	-0.02	0.10	-0.01	-0.17	0.87
Supply Chain	0.07	0.10	0.07	0.71	0.48
Marketing Mix Support	0.42	0.09	0.49	4.95	0.00

a. Dependent Variable: Direct Marketing

**H<sub>1</sub>: (Financial support on direct marketing):** The coefficient value of 0.215 from the regression analysis table suggests that financial aid has a favorable effect on farmers' participation in direct marketing; however, the p-value of 0.035 indicates a less positive effect on DV.

**H<sub>2</sub>: (Technical support on direct marketing):** the regression analysis of the coefficient Table indicates that the direct marketing participation of farmers has a strong positive relationship with the support from technology. Since p (0.865) is more than 0.05, we can infer that there is a significant positive correlation between the two variables.

**H<sub>3</sub>: (Supply chain management support on direct marketing):** The p-value of 0.479 is >0.05, making the standardized coefficient value of =0.067 significant. Hypothesis H3: Supply Chain Management support has a less positive relationship with the direct marketing participation of farmers.

**H<sub>4</sub>: (Marketing mix support on direct marketing):** A regression coefficient analysis shows that there is a connection between the marketing mix's backing and farmers' engagement in direct sales. There is a positive

effect of marketing mix support. The value of the standardized coefficient is found to be 0.490, and the p-value found to be 0.00 is more than 0.05. Hypothesis H4: marketing mix support has a weak positive impact on the DV.

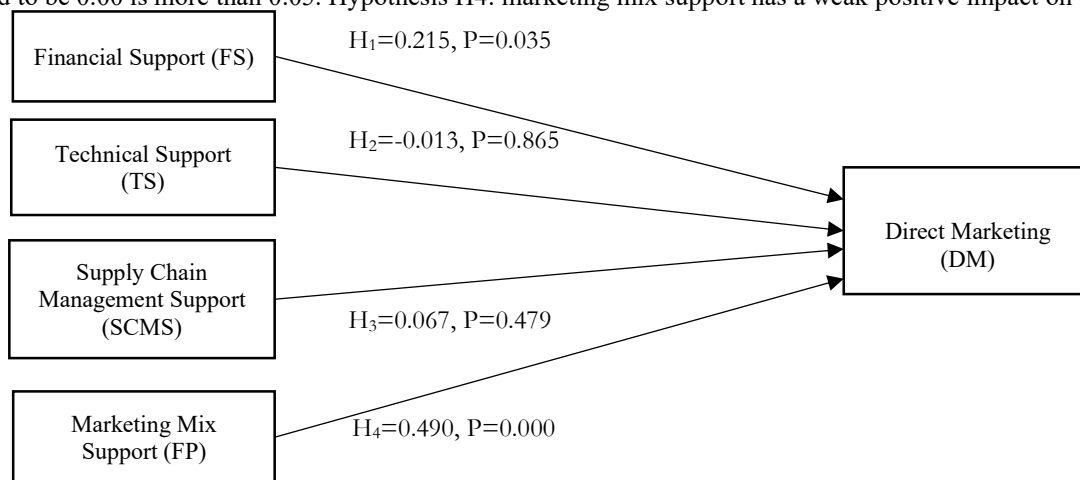


Figure 4.1: Hypothesis Test Result

## 5. Conclusion

Farmers are the lifeblood of any agricultural nation. The truth in Bangladesh is that a considerable proportion of farmers practice agriculture for subsistence. To achieve a standard of living, agriculture for subsistence must be developed into a company, thereby activating a profit base that contributes to the GDP. Along with the farmer, the agricultural industry is falling behind due to antiquated farming techniques, land subdivision, and fragmentation. Issues with credit, Inequitable distribution of land ownership, a dearth of superior seeds and fertilizers, and the use of pesticides, Lack of irrigation facilities, Natural calamities, Poor rural infrastructure, Defective marketing system and organization, Lack of a well-coordinated agriculture strategy are only a few of the obstacles to agricultural development. This assessment depicts the reality of the need for sufficient technology and financial support for direct marketing. To implement new direct-to-consumer sales technology, a young generation and a minimal level of education are essential prerequisites.

Young farmers view social media as a cost-effective, high-exposure agriproduct marketing tool. Using platforms such as WhatsApp, Facebook, and YouTube, they may engage digitally with clients and other people in the agriculture industry (Vasumathi & Arun, 2021). Raising awareness can motivate young people to e-agriculture.

To be successful with the land-to-home concept, farmers require substantial technical help. Reducing the number of dealerships can help businesses enhance their profits. At this stage, farmers need adequate cold storage, transportation infrastructure, and simple communication channels with end consumers. Farmers should benefit from regular training in customer orientation and product expertise. Other studies with large sample sizes can help researchers identify additional characteristics influencing farmers' direct marketing.

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