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**F-Commerce: An Empirical Study to Assess the Cost-Effectiveness of Agro-Based SME Business and Consumer Satisfaction in Bangladesh.**

Master's degree in Global  
Business Management

Spring 2023



**KAMK • University  
of Applied Sciences**

## **Abstract**

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**Title of the Publication:** F-Commerce: an empirical study to Assess the Cost-effectiveness of Agro-based SME Business and consumer satisfaction in Bangladesh.

**Degree Title:** Master's Degree in Global Business Management

**Keywords:** F-commerce, Agro-based SMEs, Cost-effectiveness, Consumer satisfaction, E-commerce, Online shopping, small business, Agriculture, social media

This study aimed to determine if F-commerce is cost-effective for agro-based SME companies in Bangladesh and how it affects customer satisfaction. Through thematic analysis of interviews with agro-based SME business owners as well as customers who use F-commerce, the study found significant trends connected to the adoption and challenges of F-commerce, cost-effectiveness and efficiency, the safety and quality of products, marketing strategies, and customer involvement, changes in customer behaviour and business modification, and the future of the agro-based industry in Bangladesh.

The results show that F-commerce is a viable and affordable sales channel for agro-based SME companies in Bangladesh. However, to be adopted and used successfully, businesses must deal with several problems and invest in a reliable and easy-to-use delivery system. How happy consumers are with F-commerce rests on things like the products' quality, safety, and reliability of the delivery system.

Agro-based small and medium-sized enterprises (SMEs) in Bangladesh should improve their website development, payment method integration, and logistics management. They should also give clear information about where their products come from and how they are made, offer deals and discounts for larger quantities, and invest in an easy-to-use and reliable delivery system to make their customers happier and more loyal. The study shows the importance of knowing what consumers want and expect when creating and putting F-commerce strategies in Bangladesh's agro-based SME sector.

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## 1 Introduction

The growing popularity of social media and the convenience of online shopping has prompted businesses to explore new ways of communicating with their customers (Fasola, 2018). One such strategy is F-commerce, popularly known as shopping on Facebook. It includes conducting business-related interactions using the Facebook interface (Roebuck, 2011). Bangladesh's economy relies heavily on agro-businesses work, both large and small. These businesses struggle to break into the market for various reasons, including a scarcity of advertising channels, inadequate facilities, and limited access to capital (Habib, 2022).

Facebook is the most popular social media platform in Bangladesh, and in terms of the monthly active user (MAU), it surpassed India and became one of the top three countries; therefore, it's a perfect place to develop and communicate value to the consumer in the most cost-effective way. Facebook continuously adds new features to its app to provide seamless services to the end users. Besides, it has ensured easy access to millions of people who share their thoughts and ideas and has excellent acceptance by people. The potentiality of Facebook as a platform for online shopping in Bangladesh was that 66.7% of the businesses surveyed used the social media site as a sales channel, with 81.5% utilising it as their primary sales channel. (Aiman, 2020).

Around 12 million people are employed by agro-based SMEs, which comprise approximately 25% of all small and medium-sized businesses in Bangladesh (World Bank, 2020). Despite making a significant economic contribution, agro-based SMEs encounter numerous obstacles when entering new markets. For instance, only 30% of these enterprises have access to formal funding, and about 80% struggle with product promotion (Yoshino & Taghizadeh-Hesary, 2016). F-commerce has grown in acceptance in Bangladesh, particularly among young people. In Bangladesh, 30% of Facebook users have purchased on the site (Riyasad, 2021). F-commerce helps agro-based SMEs reach a larger audience by cutting costs associated with marketing and boosting sales, among other advantages. For instance, companies that use Facebook to market their goods saw an average boost in sales of about 40% (IDLC Finance, 2018).

Bangladesh, one of the most populous countries, must create new employment opportunities to ensure the sustainable development of its developing economy (Shafiqul Islam, 2021). However, the number of educated unemployed people is rising as the country has failed to escalate job

opportunities. Though various innovative and new business ideas have been incorporated recently, a vast gap exists between the supply and demand of employment creation (Shafiqul Islam, 2021). F-commerce can significantly create new employment opportunities for the young unemployed (Nawsin, 2021). F-commerce allows entrepreneurs to market their products in a way that enables them to analyse the reason behind business success and failures. Furthermore, the ease of operating business on social media platforms motivates people to build up new businesses; therefore, there is an ample opportunity for agro-based SMEs' to deliver their value to the customer through social media platforms, mainly Facebook (Ishtiaque et al., 2016).

### 1.1 Problem Statement

There is a lack of empirical data on the efficacy and impact of customer satisfaction on F-commerce, despite its growing popularity in Bangladesh as a cost-effective alternative channel for small and medium-sized agro-based businesses to access clients and sell their products (Gao et al., 2023). This study will facilitate the decisions of companies and regulators to say whether or not F-commerce can be a profitable business model. The following empirical data have been presented to aid in decision-making and encourage the adoption of this business model. While F-commerce has emerged as a fresh and inventive way for small and medium-sized agro-based businesses to sell their products using social media platforms like Facebook, there is a lack of empirical evidence on its cost-effectiveness and impact on consumer satisfaction in Bangladesh. The problem statement of the research topic, "F-Commerce: An Empirical Study to Assess the Cost-Effectiveness of Agro-based SME Business and Consumer Satisfaction in Bangladesh." This study uses real-world data to examine how well F-commerce could work as a business model for agro-based small and medium-sized enterprises (SMEs) in Bangladesh and how it affects customer happiness. It does this to fill a knowledge gap.

### 1.2 Objectives of the Study

The primary purpose of this research is to empirically examine the cost-effectiveness of F-commerce for Bangladeshi agro-based SMEs and to examine the impact of the method on customer satisfaction. In particular, the study intends to pinpoint the elements that affect the adoption of

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F-commerce in agro-based SMEs, assess the cost-effectiveness of F-commerce compared to conventional channels, and investigate the connection between F-commerce and customer satisfaction. This study's ultimate objective is to offer evidence-based perceptions that can guide F-commerce creation as a workable business model for agro-based SMEs in Bangladesh. Some specific objectives are:

- Identify the factors that influence the adoption of F-commerce in agro-based SMEs in Bangladesh
- Analyse the cost-effectiveness of F-commerce compared to traditional channels of selling agro-based products.
- Examine the relationship between F-commerce and consumer satisfaction in the context of agro-based SMEs in Bangladesh
- Provide evidence-based insights that can inform the development of F-commerce as a viable business model for agro-based SMEs in Bangladesh.

### 1.3 Significance of the Study

The importance of this study rests in its ability to offer insightful information about the uptake and efficacy of F-commerce in Bangladeshi agro-based SMEs. The COVID-19 epidemic, according to Riyasad (2021), has increased the use of e-commerce and F-commerce in Bangladesh. The significance of F-commerce as a potential alternative to conventional channels for the sale of agricultural products has been underlined by this trend. Additionally, although agro-based SMEs are essential to Bangladesh's economy, they encounter several difficulties, such as poor infrastructure and limited market access (Uddin, 2019). By giving agro-based SMEs a greater market reach and enhancing their cost-effectiveness, adopting F-commerce could help alleviate some of these difficulties. Therefore, this study's results can help Bangladeshi agro-based SMEs consider F-commerce a workable business model. Policymakers, agro-based SMEs, and other industry interviewees in the e-commerce sector can all benefit from the findings. This study is significant because it focuses on the F-commerce (Facebook commerce) movement sweeping Bangladesh, where small and medium-sized agro-based companies use social media to market and sell their goods. The study can shed light on the viability of this business model and its potential for expansion in the

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nation by evaluating the cost-effectiveness of F-commerce and consumer happiness. Policymakers, companies, and consumers may find this information helpful in understanding F-commerce's advantages and difficulties and creating plans to encourage its growth. The study can also add to the knowledge of e-commerce and social media marketing in emerging nations, which hasn't gotten much attention from academic studies.

#### 1.4 Research Gap

The previously mentioned primary and secondary research questions were used to guide the creation of interview questions. The research questions offer a suitable starting point for examining the cost-effectiveness of F-commerce for agro-based SMEs in Bangladesh. AS they are comprehensive but still achievable, interviews with various interviewees were undertaken to collect diverse viewpoints and ideas to ensure that the study topics are addressed adequately.

In Bangladesh, F-commerce is a fast-expanding trend where many small enterprises use social media platforms to connect with clients (Huque Seddique, 2023). However, little research has been done on how F-commerce would affect agro-based SMEs. Empirical research is required to examine whether F-commerce is effective as a low-cost tool for Bangladeshi agro-based SMEs, which can aid them in expanding their markets and reaching new clients. It is also necessary to investigate the potential effects of F-commerce on consumer behaviour concerning product quality, delivery frequency, and customer service. Since it provides jobs and supports the nation's general economic growth, agro-based SMEs play a significant role in Bangladesh's economy (Nahar, 2018). However, they encounter several difficulties, including restricted access to financing, fierce market competition, and outdated technology. While there has been some research on the challenges faced by agro-based SMEs in Bangladesh, further empirical study is required to determine how F-commerce has affected these difficulties. To make agro-based SMEs in Bangladesh more competitive, studying the benefits of F-commerce, such as increased market access and lower costs, is crucial. Understanding consumer preferences, wants, and behaviour is essential for the success of organisations (The Financial Express, 2021). Research on consumer behaviour, particularly regarding agro-based SMEs, is lacking in Bangladesh's F-commerce context. For agro-based SMEs in Bangladesh, understanding the effects of F-commerce on consumer behaviour,

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particularly in terms of satisfaction with product quality, delivery speed, and customer service, might be crucial for enhancing business operations and strategy (Polas et al., 2022).

As a result, there is a research gap in this study on the effects of F-commerce on cost-effectiveness, customer behaviour, and overall competitiveness of agro-based SMEs in Bangladesh. To establish practical methods to support the growth and development of agro-based SMEs in Bangladesh, manufacturers of agricultural products, sellers of agricultural products, young f-commerce business owners, e-commerce enterprises, policymakers, business owners, and researchers may benefit significantly from addressing this gap through empirical study. Additionally, there is a lack of research exploring the factors that influence the adoption of F-commerce by agro-based SMEs in Bangladesh, which could inform the development of this business model as a viable option for these enterprises. Therefore, this study aims to address these gaps by conducting an empirical investigation of the cost-effectiveness of F-commerce, its impact on consumer satisfaction, and the factors that influence its adoption by agro-based SMEs in Bangladesh.

### 1.5 Research Questions

Research questions are popularly known as inquiries that guide the focus and provide clear direction to a study. They are obtained from the research objectives and specify the research gaps. Effective research questions are usually straightforward, concise, and specific (Malhotra, 2019).

The research question for the above research topic is:

- "What is the cost-effectiveness of using F-Commerce for Agro-based SME businesses in Bangladesh, and how does it impact consumer satisfaction?"

This research induces some supplementary research questions as well. The supplemental research questions that could be explored:

- What are the key factors that affect the cost-effectiveness of F-Commerce for Agro-based SME businesses in Bangladesh?
  - How do consumers perceive F-Commerce in the context of Agro-based SME businesses in Bangladesh, and what factors influence their satisfaction with this model?
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- What are the relationships between F-commerce and consumer satisfaction in the context of agro-based SMEs in Bangladesh?
-

## 2 Theoretical Framework

F-commerce is a subcategory of e-commerce that involves the buying and selling of products and services through social media platforms. In Bangladesh, F-commerce has emerged as a popular form of business for small and medium-sized enterprises (SMEs), particularly agro-based ones.

### 2.1 Definition of e-commerce and F-commerce

According to Lee (2013), e-commerce is the process of business transactions using electronic networks like the Internet. It encompasses a range of commercial activities like supply chain management, internet shopping, and electronic payments (Manzoor, 2010). E-commerce has developed over time, moving from straightforward online transactions to more complex B2B (business-to-business), B2C (business-to-consumer), and C2C (consumer-to-consumer) business models. Contrarily, the term "F-commerce" is a more recent one describing purchasing and selling goods and services via social media sites like Facebook, Instagram, and Twitter (Laudon & Traver, 2020). With F-commerce, businesses can promote and sell their products straight to consumers without leaving their preferred social media platform. Social media in online business has many advantages, such as reaching a specific audience, increasing customer participation, and providing personalized service. F-commerce can also be challenging because you must ensure that transactions are safe, track goods, and deal with customer complaints. With the rise of F-commerce, businesses now have more communication channels with their customers than ever before. With the continued growth and development of social media platforms, it is anticipated that F-commerce has become a vital channel through which firms conduct e-commerce transactions (Appel et al., 2019).

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Figure 1: The process of F-commerce (Marsden, 2019)

## 2.2 Types of E-commerce and F-commerce

According to Laudon and Traver (2020), there are four main categories of e-commerce: B2B, B2C, C2C, and C2B. When a wholesaler sells items to a retailer, this transaction is an example of business-to-business e-commerce or B2B e-commerce. When a consumer makes a direct purchase through a retailer's website, this is an example of business-to-consumer (B2C) e-commerce. An individual transacts business with another individual, such as when selling a used item on an online marketplace, known as consumer-to-consumer (C2C) e-commerce. Last but not least, "C2B e-commerce" denotes the use of the internet to do business between businesses, such as when a freelancer provides services to a company.

Direct and indirect F-commerce can be broken down into two main groups. (Rana, 2020). When a customer purchases from a Facebook store, such a transaction is an example of direct F-commerce. Indirect F-commerce, on the other hand, occurs when businesses promote their wares on social media sites like Facebook and Twitter. But buyers purchase via the company's website or a brick-and-mortar location.

Direct F-commerce is gaining popularity, particularly among small businesses, because it provides a practical and inexpensive method for connecting with consumers and conducting transactions (Marsden & Chaney, 2012). However, direct F-commerce does not have challenges, such as maintaining inventory on social media platforms and assuring secure transactions. On the other hand, indirect F-commerce may be a helpful tool for businesses to market their goods and services to a

larger audience and increase brand recognition. However, gauging how well indirect F-commerce drives sales can be challenging. Customers might not always purchase on the social media channel where they first saw the advertisement.

Overall, direct and indirect F-commerce present new chances for businesses to connect with and interact with consumers, but to be successful, these organizations must carefully analyse their plans and methods.

### 2.3 F-commerce in Bangladesh

Due to its low entry hurdles and extensive use of social media platforms, F-commerce has significantly increased in popularity in Bangladesh. According to a study by Riyasad (2021), the rise of F-commerce in Bangladesh may be ascribed to the country's e-commerce sector's expansion and consumers' growing usage of smartphones and social media platforms. The Bangladesh Association of Software and Information Services (BASIS) pegs the country's F-commerce market at about BDT 1 billion (\$12 million) (The Financial Express, 2020). Moreover, a popular journal named dhaka tribune published a factsheet representing valuable crucial information.

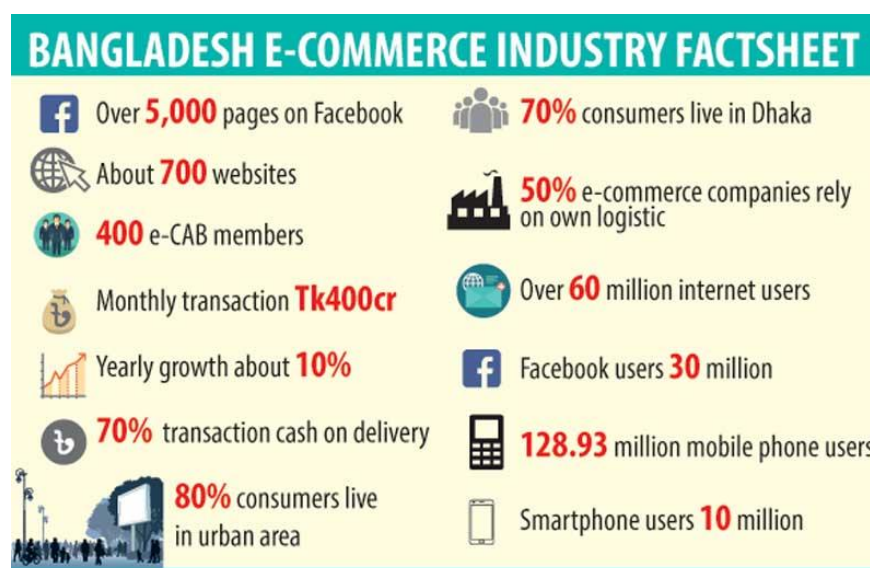


Figure 2: E-commerce industry factsheet (Ovi, 2016)

F-commerce is the practice of using Facebook as a platform for purchasing and selling goods and services, according to Tanni (2021). This practice has become a popular substitute for conventional brick-and-mortar stores and e-commerce websites in Bangladesh. According to a survey by e-CAB, the low entry barriers of F-commerce have caused a proliferation of small and medium-sized businesses (SMBs) on the platform. There are currently 800,000 registered online stores nationwide, most of which use Facebook (Aiman, 2020). Social media platforms like Facebook, Instagram, and WhatsApp are widely used, making it more straightforward for retailers to connect with a broad audience. Facebook is Bangladesh's most popular social networking platform, with over 35 million monthly active users (Martin, 2019). Targeted advertising and social media marketing are great opportunities for businesses to reach potential customers.

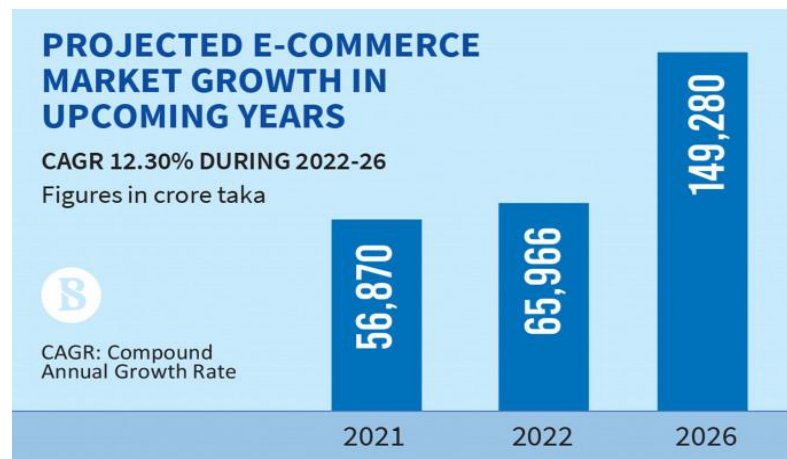


Figure 3: E-commerce market growth in Bangladesh (Karim, 2022)

Companies nowadays have wonderful F-commerce that has grown in popularity due to the progress made in Bangladesh's e-commerce sector. The e-commerce industry in Bangladesh might be worth \$5 billion due to increasing internet and smartphone penetration. (Hoq & Khan, 2021).

In conclusion, F-commerce has grown in Bangladesh due to the ease of starting a business there, the popularity of online social networks, and the maturation of the country's e-commerce sector. It is expected that F-commerce develop and evolve in the following years as more businesses use it.

## 2.4 Factors Influencing the Adoption of F-Commerce by Agro-based SMEs in Bangladesh

Some factors influence the adoption of electronic commerce by Bangladeshi agro-based SMEs. Quaddus and Azam (2009) identified critical predictors of F-commerce adoption as perceived usefulness, simplicity of use, trust, and social influence. Similar findings were made by Shahadat et al. (2023), who discovered that variables like relative advantage, compatibility, complexity, and trialability significantly predicted the adoption of F-commerce by agro-based SMEs in Bangladesh. Perceived risk, government backing, and infrastructural accessibility are additional factors that may affect the adoption of F-commerce by agro-based SMEs in Bangladesh in addition to those already listed. The term "perceived risk" relates to the possible drawbacks of using F-commerce, such as fraud, privacy issues, and security risks. Due to these alleged hazards, agro-based SMEs may hesitate to implement F-commerce (Quaddus & Azam, 2009).

Government support could be essential for Bangladeshi agro-based SMEs to adopt F-commerce. SMEs may be encouraged to embrace F-commerce through policies and programs that promote e-commerce and offer financial incentives for companies to adopt digital technologies (Alauddin & Hossain, 2001). For instance, the Bangladeshi government has started programs like the Bangladesh e-commerce Association and the Bangladesh Hi-Tech Park Authority to aid in developing the nation's e-commerce industry. Accessing infrastructure, notably internet and mobile connectivity, is essential for agro-based SMEs in Bangladesh to adopt F-commerce. SMEs may struggle to use F-commerce efficiently without consistent and affordable internet connectivity. However, the Bangladeshi government has made efforts to increase infrastructural accessibility, including deploying fibre-optic cables and introducing 4G mobile networks (Shahriar et al., 2021).

In conclusion, many factors, including perceived utility, usability, trust, social influence, relative advantage, compatibility, complexity, trialability, perceived risk, government support, and infrastructure accessibility, affect the adoption of F-commerce by agro-based SMEs in Bangladesh. Policymakers and companies can endeavour to remove obstacles to adoption and support the expansion of F-commerce in Bangladesh by being aware of these concerns.

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## 2.5 Challenges Faced by Agro-based SME Businesses

Despite the potential advantages, agro-based SMEs may find it challenging to implement F-commerce in Bangladesh. One of the main obstacles to adoption is a lack of infrastructure, technical know-how, and financial resources (Islam, 2016). Furthermore, employees and business owners who lack fundamental digital abilities may impede the successful use of F-commerce (Ashraf & Choyti, 2019).

Other vital obstacles may arise for agro-based SMEs in Bangladesh while implementing F-commerce in addition to those already stated. The lack of trust and confidence in Internet transactions is one of the biggest obstacles. Due to their belief that online transactions are less safe and more vulnerable to fraud, many customers in Bangladesh still choose to pay using cash (Islam, 2016). This lack of trust can be a significant barrier for agro-based SMEs trying to embrace F-commerce because it can hinder their ability to draw in and keep clients.

The high cost of purchasing and maintaining digital infrastructure is another difficulty agro-based SMEs face while implementing F-commerce in Bangladesh. It covers the price of equipment, software, and internet access and the cost of educating staff members on utilizing F-commerce platforms (Fairuz, 2022). The ability of many agro-based SMEs in Bangladesh to effectively participate in the digital market may be constrained by their inability to pay these fees.

Finally, regulatory obstacles can also burden agro-based SMEs intending to deploy F-commerce in Bangladesh. There may be confusion over problems like taxation, data privacy, and consumer protection because Bangladesh's legal and regulatory framework for e-commerce is still developing (The Daily Star, 2019). Agro-based SMEs may be reluctant to invest in F-commerce if they are confused about the legal and regulatory environment, which can pose a significant obstacle to adoption.

Due to several factors, including a lack of technical know-how, infrastructure, and access to financing, a lack of adequate digital skills, a lack of trust and confidence in online transactions, the high cost of acquiring and maintaining digital infrastructure, and regulatory barriers, implementing F-commerce in Bangladesh can be difficult for agro-based SMEs. Policy policymakers and industry stakeholders must collaborate to remove these obstacles and encourage F-commerce development in Bangladesh.

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## 2.6 Agro-based SMEs and F-commerce

In Bangladesh, agro-based SMEs have also begun to use F-commerce to connect clients and boost sales. F-commerce has a favourable effect on the sales and profitability of agro-based SMEs in Bangladesh, according to a study (Kabir, 2023). The study also discovered that F-commerce was especially useful for companies that dealt with perishable commodities since it enabled them to rapidly and effectively reach customers.

Agro-based SMEs in Bangladesh now have more ways to reach customers and boost sales based on the introduction of F-commerce. Agro-based SMEs can directly sell their products to a broader audience because of the widespread usage of social media platforms like Facebook and Instagram, including customers in metropolitan areas who may not have had access to them (Ranman & Kabir, 2021).

F-commerce has been observed to benefit agro-based SMEs in Bangladesh in terms of sales and profitability. Agro-based SMEs implementing F-commerce reported increased sales and profitability than those that did not (Ullah, 2014). According to the study, F-commerce was especially useful for companies that dealt with perishable commodities, like fruits and vegetables, because it allowed them to reach clients swiftly and effectively while lowering the danger of waste and spoilage.

Nevertheless, many agro-based SMEs in Bangladesh still encounter substantial obstacles when using this technology, despite the potential advantages of F-commerce. As mentioned, critical barriers to adoption can include a lack of infrastructure, technical know-how, and financial resources. Governments, business associations, and other stakeholders must collaborate to assist the development of F-commerce in Bangladesh and encourage the adoption of this technology among agro-based SMEs to get past these obstacles (Moni, 2006).

## 2.7 Cost-effectiveness of F-commerce for agro-based SMEs

The low cost of F-commerce compared to conventional means of marketing and sales is one of its main benefits for agro-based SMEs. Zabeen et al. (2013) claimed that F-commerce enables

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SMEs to lower their marketing and advertising expenses by directly reaching clients through social media platforms. Small firms with limited resources can significantly benefit from this low cost.

F-commerce's affordability for agro-based SMEs is a crucial benefit of this technology. Agro-based SMEs can reach a wider audience at a cheaper cost than traditional modes of marketing and sales by using social media platforms like Facebook and Instagram. As noted by Rahman and Bhuiyan (2014), F-commerce enables SMEs to lower their marketing and advertising expenses because they can connect with clients directly through social media platforms without using mediators like wholesalers or retailers.

Furthermore, by expediting the sales process, F-commerce can assist agro-based SMEs in lowering their transaction costs. Businesses can accept orders, handle payments, and deliver goods directly to customers by using F-commerce platforms, eliminating the need for intermediaries and their fees (Dutta & Islam, 2017).

F-commerce's minimal cost is especially advantageous for small firms with limited resources. Agro-based SMEs may compete with more giant corporations and attract clients in metropolitan areas who may not have previously known about their products by using social media platforms (Alraja et al., 2020).

## 2.8 Consumer Satisfaction with F-commerce

Consumer satisfaction is a critical factor in the success of F-commerce for agro-based SMEs. A study by Mim et al. (2022) found that consumers in Bangladesh were generally satisfied with their F-commerce experiences, citing convenience, ease of use, and competitive pricing as crucial factors. However, the study also found that consumers were concerned about the quality of products and services sold through F-commerce and the security of their personal information.

However, the study also discovered that customers were worried about the security of their personal information and the standard of goods and services offered through F-commerce (Ashraf et al., 2021). These worries emphasize how crucial it is to uphold strict standards for product quality and ensure that transactions are secure to win over customers.

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A further important factor in guaranteeing client happiness with F-commerce is customer service. Businesses should offer reliable and timely customer service, including timely and efficient handling of complaints and queries. Companies can extend their client base and encourage good word-of-mouth referrals by providing exceptional customer service. It can increase sales and business expansion (Rahman et al., 2022).

## 2.9 Adoption and Use of F-Commerce

Bangladeshi agro-based SMEs' adoption and use of F-commerce depends on several variables: size, geography, products, and clientele. Due to its affordability and adaptability, studies have indicated that small and medium-sized firms are likelier to adopt F-commerce. In contrast, larger businesses may not find it practical due to the magnitude of their operations (Ashraf et al., 2021).

Furthermore, due to their limited access to conventional retail channels, agro-based SMEs in rural areas may gain more from F-commerce. However, the acceptance and use of F-commerce also depend on how quickly firms and consumers adopt new technologies and their level of digital literacy. To remove the obstacles to the adoption and use of F-commerce, policymakers and company owners must make sure that proper training and support are offered (Alam & Minhajur Rahman, 2022).

The agro-based SME sector in Bangladesh has a lot of potentials to change due to f-commerce, which offers affordable and effective ways to market products, attract new clients, and boost consumer satisfaction. To fully reap its benefits, though, several issues must be solved. To promote F-commerce's growth and sustainability in Bangladesh, policymakers and businesses need to concentrate on enhancing internet infrastructure, digital literacy, and trust-building procedures.

Due mainly to the extensive use of mobile phones and internet technology, f-commerce has grown in popularity in Bangladesh. Bangladesh had 107 million mobile phone subscribers as of 2021, with an estimated 95 million having internet connectivity via their phones (Rahman & Khondkar, 2020). It has opened up a sizable potential market for companies looking to connect with customers online, mainly through F-commerce.

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In recent years, Bangladesh has seen a considerable surge in e-commerce activities and the expansion of mobile phone and internet use. The e-Commerce Association of Bangladesh (e-CAB) published a report stating that the Bangladeshi e-commerce market increased by 80% in 2020 compared to the previous year, with an estimated market value of \$2.1 billion (e-CAB, 2021). SMEs are increasingly interested in leveraging social media sites like Facebook and Instagram to sell their products through F-commerce, even though traditional e-commerce platforms like Daraz and AjkerDeal still dominate the market.

Despite the potential advantages of F-commerce, there are still some difficulties that SMEs must overcome when implementing this strategy. According to Rahman et al. (2022), many SMEs, for instance, lack the technological know-how to set up and run an online store and may have trouble navigating the intricate logistics and payment systems needed for online transactions. Concerns also exist over the safety and dependability of online payment methods and the possibility of fraud and cybercrime.

The performance of F-commerce for agro-based SMEs in Bangladesh is also significantly influenced by consumer behaviour and preferences. Customers in Bangladesh are frequently quite price-conscious; therefore, they could be hesitant to pay more for goods purchased through F-commerce than more conventional channels. The quality and authenticity of products sold through F-commerce may also raise questions, particularly for those perishable or with a short shelf life (Ranman & Kabir, 2021).

Overall, F-commerce can potentially be a low-cost and successful means for agro-based SMEs to reach Bangladeshi customers. Still, many aspects can affect its efficacy and impact on consumer happiness. This project intends to offer much-needed evidence-based insights that can influence decision-making and assist the expansion of this business model by undertaking an empirical study to evaluate the cost-effectiveness of F-commerce for agro-based SMEs and its impact on consumer satisfaction.

## 2.10 Core Literature of the Thesis

The theoretical framework helps the researcher identify principles, concepts, and ideas related to the study. The existing theories and frameworks used to develop new research are known as

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theoretical frameworks. It helps to identify the sources where the researcher has collected and identified relevant data (Malhotra, 2019).

Author	Year	Topic	Key Findings	Relation to this study
Alam, S., & Minhajur Rahman, M.	2022	COVID-19 Impact on Facebook-Based Social Commerce in Bangladesh	Explore the impact of covid-19 on F-commerce	It shows the impact on F-commerce
Alauddin, M., & Hossain, M.	2001	Environment and Agriculture in a Developing Economy. Edward Elgar Publishing.	Define the economy of a developing nation	The study is based on Bangladesh, a developing nation
Express, T. F.	2019	SMEs in promoting sustainable growth	Identifying the sustainable growth of SMEs in Bangladesh	Most of the agricultural products businessman are SME owner
Hoq, S. M., & Khan, A. A.	2021	E-Commerce of Bangladesh in the next five years: What to expect?	Identifying the future of e-commerce industry in Bangladesh	F-commerce is also a type of e-commerce business
Huque Seddique, M. S. U.	2023	F-commerce is the new shopping mall.	Analysing factors that can shape The future of F-commerce	Describing about F-commerce
IDLC Finance	2018	Emergence of F-Commerce Startups: Serving Customers at Their Doorsteps	The future prospect of F-commerce	F-commerce
Islam, T	2016	Emergence, opportunities and challenges of online marketing in Bangladesh: An observational review	Opportunities and challenges of online marketing	F-commerce is also an online marketing

Table 1: List of literature as the theoretical background of the research study

### 3 Research Strategy and Research Development Methods

The methodology is referred to as the systemic way of solving research problems. It entails a researcher's approach to resolving the research problems by following an accepted and logical method (Dixon, 2010). It helps the author to present the data in a structured and reliable manner. Besides, it outlines the specific techniques, tactics, and tools to demonstrate the research questions by gathering and analysing data and drawing conclusions. The research methodology includes research design, data collection and analysis approaches, sampling techniques, etc. It is a constructed framework to certify research rigorousness, credibility, and objectivity (Awang, 2014).

This study used a qualitative research design to explore complicated and subtle phenomena like adopting F-commerce and customer happiness. However, purposive sampling would be used in the study to choose individuals who have knowledge of F-commerce in Bangladesh's agro-based SME sector. Purposeful sampling suits this study as it allows for selecting interviewees who can provide in-depth and pertinent information on the research issue (Malhotra, 2019).

Interviewees attend semi-structured interviews in person and online, depending on the respondent's preference. Semi-structured has been followed because of its flexibility to review further and explore additional areas of interest. In this method, interviewees are presented with structured but open-ended questions to gather pragmatic data from the interviewees. The interview starts with predetermined questions to ensure the proper direction of the discussion. Moreover, in this method, the interviewer can ask follow-up questions, seek clarification, and explore deeper into specific areas depending on the interviewees' responses. Thematic analysis was used to find the data's patterns, themes, and categories. The collected interviews have been recorded and transcribed for this purpose. The study questions and objectives serve as the analysis guiding principles, and the data is rigorously and methodically coded and categorized.

Measures like member checking and triangulation were used in the research to guarantee the credibility and trustworthiness of the results. Ensure that the interpretation and conclusion reflect the respondent's experiences. Member verification includes discussing the results with the

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interviewees (Ravitch & Carl, 2016). Triangulation is the process of validating results and enhancing the reliability of research by using several sources of data and methodologies (Flick et al., 2004).

This study has employed a qualitative research methodology, purposeful sampling, and thematic analysis to look into how beneficial F-commerce is for Bangladeshi agro-based SMEs and how it affects customer satisfaction. The study offers data-supported insights that might help Bangladeshi agro-based SMEs grow F-commerce as a workable business model.

### 3.1 Research design

Because it enables a thorough examination of the experiences and viewpoints of the participants, the qualitative research design was used for this study (De, 2015). Research questions that call for understanding the significance and context of participant experiences, attitudes, and behaviours are particularly well suited for qualitative research. This study takes an inductive approach to investigate the complexity of agro-based SMEs in Bangladesh and how they use F-commerce to market their goods—the inductive method analyses specific information to provide a broader insight into the information (Malhotra, 2019). The qualitative research design is the most appropriate for our study for several reasons. The study's first objective is to investigate how participants in agro-based SMEs in Bangladesh use F-commerce to market and sell their goods. Research questions that call for understanding the significance and context of participant experiences, attitudes, and behaviours are particularly well suited for qualitative research (Aljian, 2019). Qualitative research enables an in-depth examination of the complexity of agro-based SMEs in Bangladesh, which the study tries to understand (Maxwell, 2013).

Second, a qualitative research design offers flexibility and permits the research design to be modified as data are collected (White & Cooper, 2022). Flexibility is essential when examining complex phenomena like agro-based SMEs and F-commerce. It allows the author to alter their research approach as the study continues. A qualitative research design also allows the researcher to go deeper into the participants' responses and offer follow-up questions to better understand their viewpoints and experiences.

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Third, a qualitative research approach allows the researcher to examine the study topics from several angles (Silverman & Patterson, 2021). This study's research questions aim to comprehend Bangladeshi consumers' happiness with F-commerce and the cost-effectiveness of agro-based SMEs. According to a qualitative study design, the researcher can investigate these issues from the viewpoints of agro-based SME owners, managers, and customers. To fully comprehend the study questions, it is imperative to use this multiple-perspective technique.

Fourth, studying social phenomena like F-commerce is ideal for qualitative research design. A qualitative research design enables the researcher to explore social wonders in their natural setting while considering the social, cultural, and economic elements that influence them (Conte et al., 2013). Social phenomena are complex and multifaceted. The author learned more about the social, cultural, and economic aspects that affect the cost-effectiveness of agro-based SMEs and consumer satisfaction with F-commerce in Bangladesh due to the qualitative research approach used in this study.

In conclusion, the optimum research design for this study is qualitative. The purpose of the study's research questions is to comprehend how participants in agro-based SMEs in Bangladesh use F-commerce to market and sell their goods. Qualitative research design's flexibility, adaptability, and various perspective approach are crucial for examining the intricacies of agro-based SMEs and F-commerce in Bangladesh. Additionally, a qualitative research approach can be used to analyse the social, cultural, and economic elements that affect F-commerce in Bangladesh, making it suited for examining this issue.

### 3.2 Informants procedure

The author attempted to enrol participants until the saturation point, establishing the informant size according to the principle of data saturation. This study is a good candidate for the purposive informant strategy because it enables the researcher to choose participants with pertinent backgrounds and viewpoints to address the research objectives (Emmel, 2013). The author can acquire rich data and insights into the cost-effectiveness of agro-based SMEs in Bangladesh and the satisfaction of their customers by choosing participants who have expertise with F-commerce.

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The study reached its saturation point when no new data or patterns emerged. With this informant size, author was able to compile a wealth of information that shed light on the cost-effectiveness of agro-based SMEs and consumer satisfaction with online shopping in Bangladesh.

### 3.3 Data collection

Data for this study was gathered through semi-structured interviews. To investigate the cost-effectiveness of agro-based SMEs in Bangladesh and consumer satisfaction with F-commerce, the researcher creates an interview guide with open-ended questions. The questions encourage participants to provide thorough and thoughtful answers.

The author utilises the same interview guide for each participant to ensure that the interviews are done consistently and uniformly. The discussions were audio-recorded and verbatim transcribed to find essential themes and patterns in the data, and then the transcripts were subjected to thematic analysis.

The author believed that the informant size of four agro-based SMEs and four customers was adequate for data saturation, which denotes gathering enough information to address study objectives completely. The interviews may be conducted in person, over the phone, or via the Internet, depending on the participant's preferences.

Due to the hectic schedules of SME owners and consumers, challenges during data collection may include trouble in recruiting participants and scheduling interviews. Additionally, some participants might be unwilling to divulge details about their F-commerce experiences due to worries about privacy or competition. By emphasizing confidentiality and anonymity, outlining the purpose and goals of the study, and offering incentives such as gift cards or other modest rewards, the author tries to mitigate these difficulties.

The possibility of author bias presents another possible difficulty in data collection. To reduce this, the researcher practices reflexivity, recognizes their prejudices, preconceptions, and assumptions, and maintains objectivity and neutrality throughout the data-gathering process.

In general, using semi-structured interviews enables a thorough exploration of participant experiences and viewpoints, giving rich and comprehensive data for the study. Even though there

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might be some difficulties with scheduling and recruiting participants, the author resolves these issues and ensure that the information gathered is accurate and reflects Bangladeshi consumers and SMEs with an agro-based business model.

### 3.4 Data analysis

Thematic analysis is used to analyse the data gathered through semi-structured interviews. Thematic analysis is a thorough and organized way to analyse qualitative data, which entails finding patterns, themes, and categories within the data (Mayring, 2021). In this study, the data has been coded and divided into themes and sub-themes before being analysed.

Transcribing the interviews and reviewing the data to find recurring themes and patterns was the first step in the analysis (Vanover et al., 2022). The author then codes the data into categories and subcategories based on the research questions and the ways that emerge from the data. This coding procedure methodically sorts data segments into appropriate categories to help uncover and analyse patterns and links between various data segments.

The Thematic analysis method was used for this study because it works well for analysing qualitative data and enables the researcher to spot patterns and themes across the data (Krippendorff, 2009). By employing this methodology, the author can recognize recurring themes about the efficiency of agro-based SMEs in Bangladesh and the satisfaction of their customers and investigate these themes in greater detail. The systematic approach taken in the thematic analysis also contributes to the credibility and accuracy of the results by ensuring that the study is thorough and dependable (Kuckartz, 2014).

Overall, the use of thematic analysis as the data analysis method for this study helps to provide an in-depth understanding of the experiences and perspectives of agro-based SMEs and their consumers in Bangladesh regarding F-commerce, as well as help to address the research questions related to the efficiency of these companies and the satisfaction of their customers.

The sole method utilised to collect data was interviewing, and the only way used to analyse data was thematic analysis, which also included some qualitative data analysis. Both the study topic and the variables of interest are consistent.

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### 3.5 Ethical considerations

All participants were asked for their informed permission and had the freedom to leave the study at any time to guarantee that ethical considerations were considered. Ethical consideration is known as informed consent. Because the participants of the interview should be aware about the matter and it should be voluntary. Pseudonyms were used to maintain anonymity and confidentiality of the data obtained (Wiles, 2013). The protection of the participant from any kinds of potential harm and discomforts are also ensured. Therefore, sensitive topics are avoided during the data collection process to minimise issues. Moreover, the ethical guidelines, code of conduct, cultural diversity according to the discipline and location of the participants are also considered with sincerity (Iphofen, 2011).

Interviews with participants were used to gather data for this study. Interviews were conducted in person, over the phone, or online depending on the participant's preferences. The Chamber of Commerce lists potential participants and participants contacted by telephone or email. For instance, participants' identities were safeguarded by being given pseudonyms to maintain anonymity. Participants were also informed of their right to withdraw from the study at any moment.

Overall, the qualitative method offered detailed and nuanced data while guaranteeing that moral factors were considered.

### 3.6 Data analysis process

Data analysis means transforming collected raw data into meaningful information that can provide insights and help make crucial decisions. It is done to identify a specific pattern, conclude, and answer the research questions (Stewart et al., 2022).

There are often numerous processes involved in the data analysis process for thematic analysis, including:

**Transcription:** Transcribing the interviews is the first phase, which entails turning the spoken words into written language. Both human and automated transcription applications are available for this (Lincoln & Guba, 2016).

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**Coding:** After reading the transcripts, the second stage entails finding patterns, themes, and concepts that come to light in the data. It involves "coding" or labelling specific text passages with tags that accurately represent their intended meaning (Gordon, 2007).

**Theme identification:** The third phase is constructing broader themes by assembling similar codes and figuring out the big ideas or concepts they stand for (Stewart et al., 2022).

**Interpreting the themes:** Themes interpretation and their consequences for the study questions and objectives are the last steps in the process (Yin, 2011).

The use of theme analysis in this study has the advantage of enabling an in-depth examination of the experiences, perspectives, and attitudes of consumers and owners of agro-based SME businesses toward F-commerce. The formation of themes and patterns from the data can be facilitated by the flexible and iterative process of thematic analysis, which can offer insights into the subtleties and intricacies of the research issue (Saldana, 2016). You may thoroughly analyse the data and gain a deep insight into the participant experiences using a small informant size of four interviewees.

Cons of thematic analysis in this study include the potential for time consuming and labour-intensive transcription and processing of interview material (Terry & Hayfield, 2021). Additionally, since various researchers may interpret the data in different ways, there is a chance that the coding process might be subjective. The results may also be limited by the small informant size since customers and owners of agro-based SME businesses may not have experiences and perspectives that are indicative of the entire public.

### 3.7 Qualitative data analysis techniques

The present study, which examines consumer happiness and the cost-effectiveness of F-commerce for agro-based SME firms in Bangladesh, heavily relies on qualitative data analysis. Non-numerical data gleaned from interview transcripts form the basis of this investigation. The five types of qualitative data analysis are grounded theory, narrative analysis, discourse analysis, framework analysis, and content analysis (Woolf & Silver, 2018). In contrast, thematic analysis—which entails familiarisation, coding, category formation, topic review, theme definition, and

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naming—is used in this study to analyse the interview responses. The results are then written up (Braun & Clarke, 2006).

The transcript is necessary for the coding of the data and subsequent categorization (Lemons et al., 2022). A code can be a word or a string of words for a concept or subject. The codings have three stages: open coding, axial coding, and selective coding (Saldana, 2016). Open coding is employed in this study, necessitating the original raw data being understood. This coding method aids in identifying the various elements that affect how Bangladeshi agro-based SMEs adopt F-commerce. Additionally, this method can be used to evaluate the cost-effectiveness of F-commerce in comparison to conventional channels of agro-based product sales, investigate the link between F-commerce and consumer satisfaction, and provide evidence-based insights that can guide the development of F-commerce as a workable business model for agro-based SMEs in Bangladesh.

### 3.8 Thematic analysis method

When analysing interview data for qualitative research, thematic analysis is frequently utilised. The data from the interviews with four agro-based SME firm owners and four agro-based SME customers were analysed using thematic analysis.

Thematic analysis is a multistage procedure that includes familiarising oneself with the data, coding, developing categories, defining and naming themes, and writing the final findings (Braun & Clarke, 2006). The followings are the steps in thematic analysis:

**Familiarity with the information:** This entails reading and rereading the interview transcripts to comprehend the facts thoroughly.

**Coding:** The data is divided into understandable chunks and given a code. A code represents a thought or idea significant to the research issue. Text passages relevant to this study's research subject, such as those discussing the cost-effectiveness of F-commerce and consumer pleasure, were given codes.

**Development of categories:** Codes are categorised according to their similarities and differences. The development and refinement of varieties follow.

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Definition and naming of themes: Categories connected are grouped to form pieces. Then, themes are identified and given names that correspond to their contents.

Putting the results in writing: The analysis's final findings are provided in a written response that includes a summary of the themes and their significance for the research topic.

The use of thematic analysis in this study has the advantage of enabling a thorough assessment of the data and the discovery of common patterns and themes throughout the data set. It is a subjective procedure, and the researcher's biases and presumptions may impact the article's findings (Guest et al., 2012).

### 3.9 Interview Guide

During the interview, the interviewer frequently refers to an interview guide comprising a list of questions and subjects to be discussed. It is used as a reference tool but is not always adhered to. According to Silverman (2013), deviating from the manual is encouraged, and additional inquiries based on unexpected but pertinent subjects are permitted.

As the interview's principal subject, the participants must be questioned regarding their personal experiences. Start with straightforward, factual questions to ease the participants into the discussion (Klenke, 2008). But it's vital to avoid becoming too intimate, making the participants uncomfortable.

A critical component of the interview process is timing. The participants' fluency and level of competence influence the length of the interviews in this study. As a result, it's crucial to give the most pressing questions a top priority (Ferraro, 2000).

### 3.10 Informants

In this study, agro-based SME owners and agro-based SME customers were the demographics from which the informant was drawn via purposeful sampling. All the units relevant to the examination constitute a population in research, claim Bryman and Bell (2017). Customers who used

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e-commerce services during the COVID-19 pandemic in Bangladesh and owners of agro-based SME companies make up the study's demographic. As observed by Padgett (2012), Patton (2015), and Emmel (2013), there is no standard formula for calculating informant size in qualitative research. The informant size for this study was eight interviewees, four of whom were proprietors of agriculturally oriented SMEs and four of whom were their clients. The author has chosen the interviewees using selection criteria from Bangladeshi relatives and family members who shopped online.

Since the participants' level of fluency and knowledge varied, so did the length of the interviews. It was, therefore, better to draw attention to the key queries that need the most clarity. During the interview, the interviewer used an interview guide as a "cheat sheet" that included a list of questions and research topics to be covered. The interviewer typically had a list of prepared questions, but these were only used as a general outline, and departures from the norm were frequently welcomed rather than seen as a fault. Based on several past studies, asking the participants questions regarding their personal experiences was preferred because they were the interview's primary focus. Simple questions that were easy to comprehend elicited factual responses and relaxed the participants might be used as the interview's opening statements. The timing was a crucial component of the interview process. The interviewees' interview sessions lasted between thirty and forty minutes, and to prevent upsetting the participants, the author tried to avoid getting too personal with our questions.

### 3.11 Interview Transcriptions

Due to the author's inability to travel abroad for this study, the interviews were performed via online audio-conferencing technology (Teams). The duration of each interview was between thirty to forty minutes, and participants' permission was taken before the interviews were recorded. The participants were given numerical pseudonyms to protect their anonymity, and information regarding them and their workplaces was suppressed. Accurate transcription of the interview data is one of the most critical jobs before data analysis. Even though there are no internationally recognized standards for transcription, it must be adequately done to address several challenges, like transferring spoken words into written form. After transcription, the last step is data analysis (Gordon, 2019).

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## 4 Empirical Section

The methods of collecting and analysing data for a thesis paper are described in the empirical section. It provides details about the study that can help other authors replicate or evaluate its accuracy. The empirical section is used to organise and present the data in a clear and logical manner, considering some specific acceptable guidelines (Malhotra, 2019).

### 4.1 Data Analysis Techniques

The obtained data must now be evaluated to determine the results. It ensured that the data produced was suitable, understandable, and significant. Qualitative data differs from quantitative data because it can come from various sources, including words, images, and documents (Given, 2015). Techniques for thematic data analysis have been extensively used in this work. The method's theoretical adaptability sets theme analysis apart from other methods for analysing qualitative data (Braun & Clarke, 2006).

Additionally, theme analysis is practical when examining various qualitative data, including media, transcripts, focus groups, interviews, and more (Braun & Clarke, 2006). The interviews for this study were initially done using Zoom video conferencing technology to avoid bias, such as emotions, from being present throughout the encounter. The appendices section contains the transcript data gathered from the interviewees. The analysis of the theme data comes next. The third and final step is to highlight the critical aspects of the information from the interview data. After that, the entire thematic data analysis was completed.

### 4.2 Interviewees

Interviewees are the people who participate in a study and contribute information to the research (Edwards & Holland, 2013). The interviewees for the thesis topic were chosen from two distinct groups: agro-based SME owners and agro-based SME clients.

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Four interviewees were chosen by purposeful sampling from each group, making a total informant size of 8 people. Selecting the right interviewees in qualitative research is crucial because it might impact the study's credibility.

All participants were executives and professionals with mid-level experience who could offer trustworthy information about the remote working environment. Before the interview, a pilot test was undertaken to ensure the participants were conversant with the subjects included in the interview questions.

The response's remarks and data are essential for illuminating the natural connection between remote work and its long-term viability (Edwards & Holland, 2013). As a result, despite the small informant size, the interviews are crucial for offering insightful answers to the study questions.

<b>Respondent</b>	<b>Gender</b>	<b>Country</b>	<b>Business owner/customer</b>	<b>Duration</b>
<b>Speaker – 1</b>	Male	Bangladesh	Business owner	35 minutes
<b>Speaker – 2</b>	Male	Bangladesh	Business owner	37 minutes
<b>Speaker – 3</b>	Male	Bangladesh	Business owner	31 minutes
<b>Speaker – 4</b>	Female	Bangladesh	Business owner	36 minutes
<b>Speaker – 5</b>	Male	Bangladesh	Customer	32 minutes
<b>Speaker – 6</b>	Male	Bangladesh	Customer	35 minutes
<b>Speaker – 7</b>	Male	Bangladesh	Customer	36 minutes
<b>Speaker – 8</b>	Male	Bangladesh	Customer	33 minutes

Table 2: Interviewees details

### 4.3 Findings of thematic analysis

Thematic analysis was conducted using the transcription of data. Several common themes were identified from the interviews, which were then coded to accumulate the homogenous data and keep aside the heterogeneous data to narrow down the research results. The Themes and the codes used for every response are listed below:

Themes	Sub-themes	Quotations
<b>Challenges of agro-based F-commerce</b>	Product Quality Product Delivery Product Safety Government Policy & Regulations Lack of Knowledge & Expertise Comparison with Other Channels Marketing Strategies	<p><i>"... purchasing good products online and confirming receiving products after the payment is a big challenge...."</i></p> <p><i>"... we don't have any significant prior example of doing business on agricultural products, planning to reach customers could be tough...."</i></p> <p><i>"... if the idea gets popularity, we could have a lot of sources of buying products virtually...."</i></p>
<b>Opportunities for agro-based F-commerce</b>	Reach a Larger Consumer Boost in sales Shifting in Consumer Behaviour Consumer Engagement Potential Growth	<p><i>"... the social media user is booming, and I think online purchasing could be good solutions to many problems...."</i></p> <p><i>"... currently people are spending more time on social media platforms; it will increase more in the upcoming times...."</i></p>
<b>Benefits of agro-based F-commerce</b>	Product Price Cost-effective Sales Channel Role of Social Media Product Comparison Expansion of Product Offerings Customer Service & Quick Responses	<p><i>".... this will deescalate the involvement of the third party, and the price would remain less...."</i></p> <p><i>".... a wide range product could be offered to engage more consumers...."</i></p> <p><i>"..... we can easily connect to the seller at any time to share our thoughts and ideas about it..."</i></p>

Table – 3: Thematic analysis

#### 4.4 Findings of thematic analysis to Answer the research question

The research project aimed to determine whether employing F-Commerce for agro-based SME firms in Bangladesh would be cost-effective and what effect it would have on customer satisfaction. The adoption and challenges of F-commerce, its cost-effectiveness and efficiency, product quality and safety, marketing strategies and consumer engagement, changes in consumer behaviour and business adaptation, the future of the agro-based industry in Bangladesh, and the regulatory environment were all identified through thematic analysis of an interview with the owner of an agro-based SME. In the context of agro-based SME enterprises in Bangladesh, the study offers insights into the elements that determine the cost-effectiveness of F-commerce and consumer satisfaction with this model based on these themes. The answers to the research questions are:

- ***What is the cost-effectiveness of using F-Commerce for Agro-based SME firms in Bangladesh, and how does it impact customer satisfaction?***

The thematic analysis results for the first study question show that F-commerce is a reasonably priced and effective sales channel for agro-based SME firms in Bangladesh. Because there is no longer a requirement for a physical store and transportation expenses are decreased, sales and revenue are raised. Additionally, it enables companies to connect with a more extensive customer base without spending more on marketing, enhancing client engagement and happiness.

- ***What are the main determinants of F-Commerce's cost-effectiveness for Bangladeshi agro-based SME businesses?***

The results of the theme analysis indicate that several significant determinants affect how cost-effective F-commerce is for agro-based SME enterprises in Bangladesh, which is relevant to the second study question. These include logistical management, payment system integration, and website construction. To successfully embrace and deploy F-commerce, these obstacles must be overcome, and money must be spent on a dependable and user-friendly delivery system.

- ***What aspects of Bangladeshi agro-based SME enterprises do customers perceive as F-Commerce, and how satisfied are they with this model?***
-

The results of the theme analysis reveal that consumers in Bangladesh view F-commerce as a practical and successful means to buy agro-based items, which is relevant to the third study question. However, their happiness with this model is impacted by worries about product quality and safety as well as the dependability of the delivery system. Agro-based SME businesses must improve their F-commerce activities to increase customer satisfaction and loyalty. These steps include giving clear information about the product's origin and production process, providing promotions and discounts for large purchases, and investing in a user-friendly and dependable delivery system.

In conclusion, the findings of the thematic analysis show that F-commerce is a practical and affordable sales channel for agro-based SME firms in Bangladesh. But for acceptance and implementation to be effective, several obstacles must be overcome and spending money on a dependable and user-friendly distribution system. Product quality, security, and delivery system dependability influence f-commerce customer happiness.

#### 4.5 Analysis of the Transcripts highlighting responses

The interview was conducted among four agro-based SME business owners and four agro-based SME customers. Several similar responses have been identified from their responses. Those homogenous responses paved the way for the solution of the research questions and test of the hypothesis as well. Moreover, those responses have some common themes, which were the basis for the thematic analysis. Reactions to the transcripts are stated below under standard criteria.

##### 4.5.1 Agro-based SME owners' responses and analysis of the transcripts

The four business owners' responses are chronologically stated below under every bold mark criterion. Important data have been identified from every answer, which had been the basis for further thematic analysis. Bold marked lines sought data from the respondents, and every consecutive para denotes the responses of Speaker-1, Speaker-2, Speaker -3 and Speaker-4, respectively. In the beginning, all respondents' responses will be given, and the transcripts' analysis will come later. The owners of an agro-based SME in Bangladesh were interviewed. The results of the

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conversation revealed six key themes: the adoption and challenges of F-commerce, its cost-effectiveness and efficiency, product quality and safety, marketing tactics and consumer engagement, changes in consumer behaviour and business adaptation, the future of the agro-based industry in Bangladesh, and the regulatory environment.

- **Influential factors for adopting F-commerce commerce as Agro based SME business sales channel and challenges encountered**

The information came from the interview with a responder running a small agro-based Bangladesh business. The company used F-commerce as a sales platform and focused on growing organic fruits and vegetables. The interview touched on a variety of subjects, including the justifications for adopting F-commerce, difficulties encountered in doing so, the cost-effectiveness and efficiency of F-commerce, the quality and safety of the products, marketing tactics, modifications in customer behaviour, and the future of the agro-based business in Bangladesh. F-commerce demand was regularly escalating because of its cost-effectiveness and consumer convenience.

According to informant 1,

*“...F-commerce started during the pandemic as traditional sales channels were disrupted. The primary reason for adopting F-commerce was to reach customers who could not visit our physical store due to lockdowns and other restrictions. I also saw it as an opportunity to expand the customer base beyond the local area. However, I also faced several challenges during the adoption process, such as developing a user-friendly website, integrating payment systems, and managing logistics.”*

- **Cost-effectiveness and efficiency measurement in contrast to traditional sales channel**

Excluding the concept of the physical store for doing business was the main reason for the popularity of F-commerce. People wanted a service with minimum expenses. F-commerce helped earn more revenue by cutting the cost of third parties and logistics. The opportunity to serve many people through F-commerce gave the benefit of cost-effectiveness by saving marketing and other third-party costs. The cost of communication through F-commerce was minimum. However, the reach of F-commerce has been expanding daily from city areas to remote areas of Bangladesh. As a result, F-commerce business people felt confident in providing service and ensuring profitability.

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According to informant 2,

*“... I found that F-commerce is more cost-effective than traditional sales channels as it eliminates the need for a physical store and reduces transportation costs. It also allows us to reach a wider customer base without additional marketing expenses. I have observed significant improvements in our business since implementing F-commerce, including increased sales and revenue and improved customer engagement.”*

- **Steps were undertaken to ensure product quality and safety.**

Consumer behaviour has changed, as evidenced by the rise in demand for organic goods and the preference for contactless delivery methods. By enhancing delivery alternatives to offer a safer and more convenient service, the company expanded its product line to include more organic products in response to these changing customer needs.

According to Informant 4,

*“... As a producer of organic fruits and vegetables, we ensure our products meet strict quality and safety standards. We conduct regular quality checks and use eco-friendly packaging materials to maintain product freshness. We also provide detailed product descriptions and photos on our website to help customers make informed decisions, and we have a customer service team available to address any concerns or questions they may have.”*

- **Engagement with customers through social media**

Business people operating on social media platforms can easily create brand awareness among consumers by spreading customer reviews and products. They considered the opinion or reviews of the consumer sincerely and planned their business accordingly. Some particular consumers were treated with email marketing. The way of doing business on social media platforms changed. Like, influencers were being used to drive business and increase product engagement. However, social media platforms could also be said to be a game changers as they introduced many things and changed the lifestyle of many people. It is one of the best ways of doing niche marketing. Selecting a target market is much easier than in any other field. Moreover, business people found customers more available on these platforms. So, finding the target market was a wise decision to promote the newly launched product.

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According to Informant 3,

*“... Social media has been instrumental in promoting our F-commerce activities. We use platforms like Facebook and Instagram to showcase our products and share customer reviews. We also run targeted ads to reach potential customers. We engage with consumers through these channels by responding promptly to their comments and messages and providing helpful information about our products and services.”*

- **Changes in consumer behaviour after adopting F-commerce**

The consumer's behavioural pattern changes constantly. Most of the consumers mainly follow the trends. Then organic was a newly addressed trend. So consumers preferred organic products in every sector, and business people were also promoting their products by giving live videos and pictures or even welcoming consumers to the farmhouse so that consumers could ensure their business. Moreover, during the pandemic, contactless delivery got more popular, and some consumers expected this mode to be much safer. Products with better packaging got more attention, so better packaging was a must.

According to Informant 3,

*“... we have noticed changes in consumer behaviour, particularly an increased demand for organic products and a preference for contactless delivery options. We have adapted to these evolving needs by expanding our product range to include more organic options and improving our delivery options to provide a safer and more convenient service.”*

- **Future Outlook of the F-commerce Industry**

Since the number of people on social media platforms was the biggest, promoting our agro-based products on the social platform could quickly grab much of the attention. However, people demanded authentic commodity items with a high price, as they had become more cautious about their healthy lifestyles. The policymakers should have focused on ensuring the safe and secure delivery of support. Again, investing a lot was common for businesses, but doing business on social media platforms did not need much money. With a minimum amount, anyone could get access to a bunch of people.

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According to Informant 3,

*“...We believe that F-commerce has the potential to revolutionize the agro-based industry in Bangladesh by providing a more efficient and accessible sales channel. However, we would like to see improvements in the regulatory environment to ensure fair competition and protect consumer rights. We would also like to see more investment in logistics and infrastructure to support the growth of F-commerce in the country.”*

- **Experience in purchasing agro-based products through F-commerce.**

The interviewee discussed their experience using Bangladeshi F-commerce sites to buy agricultural items. The interviewer probed the respondent's impressions of the calibre, security, and dependability of agro-based goods and SMEs selling them through this channel and the elements that affected their purchase behaviour and degree of satisfaction with the F-commerce experience. During the pandemic, the shopping of agro-based products through F-commerce gained popularity. As consumers were facing trouble going outside to buy food, they bought agro-based products and found them more convenient. The organisation serving this market provided excellent service that changed consumers' perspectives about buying online agro-based products.

According to Informant 5,

*“...Since the COVID-19 pandemic, I've started using F-commerce to buy agro-based products from small and medium enterprises (SMEs) in Bangladesh. I was initially attracted to this platform because of its convenience - I can order products from home and deliver them directly to my doorstep.”*

- **Influential factors for purchasing agro-based products through F-commerce**

Based on the thematic analysis, the author could summarize the main conclusions and insights from the interview. For instance, the author might conclude that consumers' motivation to buy agro-based items through F-commerce channels was primarily driven by price and convenience. Still, worries regarding reliability, trust, and quality control could also impact consumer behaviour. By enhancing product quality and consistency, giving clear information about their items, and investing in a dependable delivery system, SMEs in Bangladesh could improve their F-com-

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merce activities. Finally, online marketplaces and traditional retail locations still had some benefits, such as a more extensive assortment of products and enhanced price comparison tools, notwithstanding F-commerce's ease and user-friendliness.

According to Informant 7,

*"...Price and convenience are important factors for me. I've found that the prices of agro-based products sold by SMEs through F-commerce are often more affordable than those sold in traditional retail stores. I also appreciate the convenience of shopping from home without going to a physical store. In terms of discovering these SMEs, I found out about them through social media platforms like Facebook and Instagram."*

- **Measurements of satisfaction and dissatisfaction**

The F-commerce business of agro-based products was swift in its delivery. Because agro-based products were primarily perishable products, and the lifespan of those products was very short. Moreover, most of the F-commerce businesses regarding agro-based products were locals who liked to serve in short coverage. Thus, the delivery of these remained short. Some products, like fruits, were mostly sold on a seasonal basis, and the fruits were delivered to the consumers right after they were collected from trees.

According to Informant 6,

*"...Overall, I've been pretty satisfied with my experience purchasing agro-based products through F-commerce. One of the main factors contributing to this satisfaction is the quick and efficient delivery service the SMEs provide. However, there have been some challenges, such as delays in delivery times and discrepancies in product quality."*

- **Maintenance of quality, safety, and trustworthiness issues**

In F-commerce, it was possible to add the details of agro-based products, which motivated the buyer. When they encountered the details, they became aware of that product category. However, agro-based products had great variety according to the place they had manufactured. The taste, colour, size, and vulnerability varied to the place it was produced.

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According to Informant 7,

*"...I believe that the quality and safety of agro-based products sold through F-commerce can be quite variable. Some SMEs provide detailed information about their products' origin and production process, which helps build trust. I also look for certifications and labels like "organic" or "fair trade" to ensure that the products I'm purchasing meet certain quality and safety standards."*

- **Overall shopping experience and comparison with traditional channels**

In the interview, consumers focused more on F-commerce's convenience and user-friendliness. They preferred this to going to a retail shop, but one thing they mentioned created confusion was the price variation on different pages. It was the reason for spreading out counterfeit business pages. They were also talking about businesses like Amazon, which is currently unavailable in Bangladesh, but their comment ignited a flame of growing demand in this sector. They mentioned preferring online shops because they do not have to go outside into the local unhygienic market to buy agro-based products.

According to Informant 7,

*"...I think F-commerce is generally more convenient and user-friendly than traditional retail stores. However, finding specific products or comparing prices can be more challenging, as the selection is often more limited. Online marketplaces like Amazon offer a wider range of products, but the user experience can be overwhelming and impersonal."*

- **Suggestions or Recommendations**

Since doing business in F-commerce in Bangladesh did not need any official trade license until it became comparatively big in terms of the transaction, various people took advantage of this by creating fake business pages. Customers who ordered on those pages got problems like fraudulence or sending rotten or expiry products. So, F-commerce business people should provide some security to make the consumer ensured about the business by giving opportunities to return the products if not liked. Moreover, detailed information about the product was also helpful in getting more credibility, and a positive customer review could play a significant role in this perspective.

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According to Informant 6,

*“...One suggestion would be for SMEs to improve the quality and consistency of their products. Clear information about the product's origin and production process can also help build consumer trust. Additionally, offering promotions and discounts for bulk purchases could be a good way to incentivize customers to buy more products. Finally, investing in a user-friendly and reliable delivery system is crucial to ensuring a positive shopping experience for customers. By prioritizing these factors, SMEs in Bangladesh can improve their F-commerce activities and better meet the needs of their customers.”*

#### 4.5.2 Agro-based SME customers' responses and analysis of the Informants

The responses of the four agro-based SME customers are stated below chronologically under every bold mark criterion. Important data have been identified from every answer, which had been the basis for further thematic analysis. Bold marked lines sought data from the respondents, and every consecutive para denotes the responses of Speaker -5, Speaker -6, Speaker -7 and Speaker -8, respectively. In the beginning, all responses of respondents will be given, and the analysis of transcripts will come later on.

- **Experience in purchasing agro-based products through F-commerce.**

The interviewee discussed their experience using Bangladeshi F-commerce sites to buy agricultural items. The interviewer probed the respondent's impressions of the calibre, security, and dependability of agro-based goods and SMEs selling them through this channel and the elements that affected their purchase behaviour and degree of satisfaction with the F-commerce experience. During the pandemic, the shopping of agro-based products through F-commerce gained popularity. As consumers were facing trouble going outside to buy food, they bought agro-based products and found them more convenient. The organisation serving this market provided excellent service that changed consumers' perspectives about buying online agro-based products.

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- **Influential factors for purchasing agro-based products through F-commerce**

Based on the thematic analysis, the author could summarize the main conclusions and insights from the interview. For instance, the author might conclude that consumers' motivation to buy agro-based items through F-commerce channels was primarily driven by price and convenience. Still, worries regarding reliability, trust, and quality control could also impact consumer behaviour. By enhancing product quality and consistency, giving clear information about their items, and investing in a dependable delivery system, SMEs in Bangladesh could improve their F-commerce activities. Finally, online marketplaces and traditional retail locations still had some benefits, such as a more extensive assortment of products and enhanced price comparison tools, notwithstanding F-commerce's ease and user-friendliness.

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*“...Price and convenience are important factors for me. I've found that the prices of agro-based products sold by SMEs through F-commerce are often more affordable than those sold in traditional retail stores. I also appreciate the convenience of shopping from home without going to a physical store. In terms of discovering these SMEs, I found out about them through social media platforms like Facebook and Instagram.”*

- **Measurements of satisfaction and dissatisfaction**

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- **Overall shopping experience and comparison with traditional channels**

In the interview, consumers focused more on F-commerce's convenience and user-friendliness. They preferred this to going to a retail shop, but one thing they mentioned created confusion was the price variation on different pages. It was the reason for spreading out counterfeit business pages. They were also talking about businesses like Amazon, which is currently unavailable in Bangladesh, but their comment ignited a flame of growing demand in this sector. They mentioned preferring online shops because they do not have to go outside into the local unhygienic market to buy agro-based products.

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*“...One suggestion would be for SMEs to improve the quality and consistency of their products. Clear information about the product's origin and production process can also help build consumer trust. Additionally, offering promotions and discounts for bulk purchases could be a good way to incentivize customers to buy more products. Finally, investing in a user-friendly and reliable delivery system is crucial to ensuring a positive shopping experience for customers. By prioritizing these factors, SMEs in Bangladesh can improve their F-commerce activities and better meet the needs of their customers.”*

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## 5 Discussions

The study investigates if implementing F-commerce is cost-effective for agro-based SME firms in Bangladesh and how it affects customer satisfaction. Key issues about the acceptance and difficulties of F-commerce are product quality and safety, marketing tactics, consumer behaviour, and the industry's future in Bangladesh. They are all revealed by thematic analysis of interviews with agro-based SME business owners and consumers. The results indicate that F-commerce is a practical and affordable sales channel for agro-based SMEs. However, issues remain to be resolved, including website development and logistics management. Product safety, quality, and delivery methods are all essential elements that affect consumer satisfaction. The report emphasizes the need to comprehend consumer wants and expectations, strengthen F-commerce activities, and adjust to shifting consumer behaviour to make the industry more competitive.

However, since the study's informant is limited to eight interviewees, the findings of this study cannot be considered as a statement. But it can be used to generate more ideas related to this field. This study has tried to shed light on the business opportunity that should be taken by the interested parties associated with this field. Moreover, Bangladesh is popularly known as an agricultural country, and it usually produces many agricultural products that are wasted because of poor supply chain management. Furthermore, the supply chain is managed by local traders with little knowledge about the required updates that could change the whole scenario.

### 5.1 Limitations

Some limitations should be noted, despite the research's findings offering insightful information about the cost-effectiveness of F-commerce and its effect on customer satisfaction in the context of agro-based SME firms in Bangladesh.

First, only four owners of an agriculturally based SME business were in our study, and only four agro-based product consumers used F-commerce. As a result, it's possible that the findings don't accurately reflect Bangladesh's larger market for agro-based SME companies and customers.

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Second, because the study only examined one particular business in Bangladesh, its capacity to generalise to other industries is constrained.

Thirdly, the research only used qualitative data from interviews, which may be biased and not give a whole picture of how effective F-commerce is at reducing costs and increasing customer happiness. Quantitative information could be used in future studies for a more thorough analysis and decision-making.

Finally, the research did not consider external issues, including changes in governmental legislation, the state of the economy, and market competitiveness. Future studies should consider these variables as they may affect the cost-effectiveness of F-commerce in Bangladesh's agro-based SME sector.

## 5.2 Recommendations

Several suggestions can be made to enhance the acceptance and efficacy of F-commerce in the agro-based SME sector in Bangladesh based on the findings and limitations of this study:

- Agro-based SME enterprises in Bangladesh should invest in developing user-friendly and dependable F-commerce platforms. It can be done by enhancing website design, ensuring safe payment mechanisms, and implementing a quick and effective logistical system.
  - Consumer happiness with F-commerce can also be increased by clearly communicating the product's origin and manufacturing process and offering incentives and discounts for large purchases.
  - Agro-based SME enterprises should adhere to safety standards and regulations to address product quality and safety concerns. To guarantee the quality and security of their products, they can also think about employing quality control procedures, such as product testing and certification.
  - Businesses can also inform customers about the safety and quality standards they uphold through their F-commerce platforms, fostering loyalty.
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- Agro-based SME enterprises in Bangladesh should use innovative marketing methods to promote their F-commerce activities and engage with clients.
- Agro-based SME companies should constantly track and adjust to shifting consumer demand and behaviour. For instance, they could launch fresh goods and services that suit the requirements and preferences of customers.
- Businesses can also use consumer data and feedback analysis to pinpoint areas where their F-commerce efforts and general business operations need to be improved.
- The Bangladeshi government should encourage agro-based SME companies to increase their competitiveness. It can be accomplished by offering finance, programs for training and education, and infrastructure development that support the expansion and development of businesses.
- The government can also set policies and rules to support Bangladesh's agro-based industry's evolution.

By implementing these suggestions, agro-based SMEs in Bangladesh can increase F-commerce adoption and effectiveness, improve customer happiness, and boost the sector's competitiveness in the world market.

### 5.3 Reliability & Trustworthiness

Any research study must consider credibility and reliability to ensure the results are reliable, accurate, and credible (Thiétart, 2001). Several measures have been used in this study to guarantee the accuracy and dependability of the data.

The degree to which a study measures what it set out to measure in a reliable and trustworthy way is called credibility (Mertens, 2003). Several methods have ensured the trustworthiness of this study. To study measures what it's supposed to, the research questions have first been designed to fit the research objectives. Second, the number of informants was selected so that it

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provided a thorough grasp of the research subject. Thirdly, the interview questions were constructed to extract pertinent and essential information, guaranteeing the credibility of the information gathered.

The consistency of the research findings is referred to as reliability (Terrell, 2022). Several techniques have been used in this investigation to assure reliability. First, standardized interviewing techniques ensured all participants received the same questions (Beatty et al., 2020). Second, the interviews were audio recorded and transcribed, allowing for a cross-check of the data's correctness and consistency. Thirdly, to guarantee the credibility of the results, the data analysis procedure was carried out and cross-checked according to the guidelines provided (Edwards & Holland, 2013).

The fact that interview questions were created to elicit pertinent and helpful information from the interview session and ensure this study's credibility and reliability. For instance, the participants were questioned about their experience with F-commerce and how it affected their business or level of happiness. It made sure that the information gathered was accurate. The interviews were also performed uniformly, with identical questions being posed to every participant. As a result, the responses from each participant were consistent, ensuring the credibility of the data obtained.

#### 5.4 Managerial Implications

This research has important lessons for businesses and their executives.

Providing a broader selection of items, increasing product quality, and maintaining competitive pricing should be their top priorities. Additionally, they should put an emphasis on excellent client service and communication in order to swiftly and effectively address any difficulties that may emerge.

Furthermore, internet marketplaces and social media sites allow SMEs to advertise their wares to a larger audience.

In addition, small and medium-sized enterprises should put money into technology.

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## 6 Conclusion

For agro-based SME firms in Bangladesh, the research study examined the cost-effectiveness of F-commerce and its effect on customer satisfaction. Agro-based SME business owners and consumers who use F-commerce channels were interviewed. The thematic analysis of the data revealed several key elements that affect the success of F-commerce in the agro-based sector, including website development, payment system integration, logistics management, product quality and safety, marketing strategies, and consumer engagement.

According to the study, F-commerce enables agro-based SME enterprises in Bangladesh to increase their customer base and boost sales because it is affordable and effective. But for acceptance and implementation to be effective, several obstacles must be overcome and spending money on a dependable and user-friendly distribution system. Customers see F-commerce as a practical and efficient way to buy agricultural products, but things like product quality, safety, and the dependability of the delivery system influence customer satisfaction.

The thematic analysis underlines increased government assistance, infrastructure improvements, and SMEs' need for education and training to compete in the global market. Overall, the results offer insightful information on the variables affecting F-commerce's cost-effectiveness and customers' happiness with this model in the context of Bangladeshi agro-based SME firms. The study's recommendations can help agro-based SMEs in Bangladesh create and practise efficient F-commerce strategies that satisfy customers' needs and expectations, raise their satisfaction levels, and increase the sector's competitiveness.

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## Appendix 1

### **Interview questions for Agro-based SMEs in Bangladesh**

1. What were the primary factors that influenced your decision to adopt F-commerce as a sales channel for your agro-based products, and what challenges did you encounter during the adoption process?
2. How do you assess the cost-effectiveness and efficiency of F-commerce in comparison to traditional sales channels, and have there been any measurable improvements in your business since its implementation?
3. In the context of F-commerce, how do you guarantee product quality and safety for your customers, and what specific steps do you undertake to address any concerns they may have?
4. Can you describe the role of social media and other marketing strategies in promoting your F-commerce activities, and how you engage with consumers through these channels?
5. Since adopting F-commerce, have you observed any changes in consumer behavior or demand for agro-based products, and how has your business adapted to meet these evolving needs?
6. As an agro-based SME in Bangladesh utilizing F-commerce, what do you envision for the future of this industry, and what improvements or modifications would you like to see within the regulatory environment or the sector itself?

### **Interview questions for consumers who have purchased products from Agro-based SMEs in Bangladesh through F-commerce.**

1. What factors, including price, quality, and convenience, influence your decision to purchase agro-based products through F-commerce channels, and how did you first discover these SMEs and their offerings?
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2. How satisfied are you with the overall experience of purchasing agro-based products via F-commerce, and what specific factors contributed to this satisfaction or dissatisfaction? Were there any challenges or concerns encountered during the process?
  3. How do you perceive the quality, safety, and trustworthiness of agro-based products and the SMEs selling them through F-commerce channels? Are there any specific measures, such as certifications or labeling, you consider ensuring product quality and safety?
  4. Have your purchasing behavior or preferences evolved since using F-commerce for buying agro-based products, and if so, what changes have you noticed, and why? Are there any particular product categories or types you prefer purchasing through this channel?
  5. How does the overall shopping experience of F-commerce compare to other channels, like traditional retail or online marketplaces, in terms of reliability, convenience, and user-friendliness?
  6. What suggestions or recommendations would you offer to agro-based SMEs in Bangladesh to enhance their F-commerce activities and better align with consumer expectations?
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## Appendix 2

### **Data analysis of the interview with the business owner (Speaker - 1)**

#### Step 1: Familiarization with the data

The data consists of an interview between an interviewer and a respondent who is the owner of a small agro-based business in Bangladesh. The business specializes in producing organic fruits and vegetables and has adopted F-commerce as a sales channel. The interview covers topics such as the reasons for adopting F-commerce, the challenges faced during adoption, the cost-effectiveness and efficiency of F-commerce, product quality and safety, marketing strategies, changes in consumer behavior, and the future of the agro-based industry in Bangladesh.

#### Step 2: Generating initial codes

Adoption of F-commerce due to a pandemic and disruption of traditional sales channels

Reasons for adopting F-commerce: reaching customers who cannot visit physical stores, expanding the customer base

Challenges faced during adoption: developing a user-friendly website, integrating payment systems, managing logistics

Cost-effectiveness and efficiency of F-commerce: eliminates the need for a physical store, reduces transportation costs, broader customer base, increases sales and revenue, improves customer engagement.

Product quality and safety: regular quality checks, eco-friendly packaging materials, detailed product descriptions and photos, customer service team

Role of social media and marketing strategies: promoting products, engaging with consumers, responding to comments and messages

Changes in consumer behavior: increased demand for organic products, preference for contactless delivery options

Business adaptation to evolving needs: expanding product range, improving delivery options.

Future of agro-based industry in Bangladesh: potential for F-commerce to revolutionize an industry, need for improvements in the regulatory environment and logistics/infrastructure investment

#### Step 3: Searching for themes.

Adoption and challenges of F-commerce

Cost-effectiveness and efficiency of F-commerce

Product quality and safety

Marketing Strategies and consumer engagement

Changes in consumer behavior and business adaptation

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## Future of the agro-based industry in Bangladesh and the regulatory environment

### Step 4: Reviewing and defining themes

**Adoption and challenges of F-commerce:** This theme covers the reasons for adopting F-commerce, which was due to the pandemic and disruption of traditional sales channels, and the challenges faced during adoption, including website development, payment system integration, and logistics management.

**Cost-effectiveness and efficiency of F-commerce:** This theme covers the benefits of F-commerce in terms of cost-effectiveness and efficiency, which includes eliminating the need for a physical store, reducing transportation costs, reaching a broader customer base, and increasing sales and revenue.

**Product quality and safety:** This theme covers the measures taken by the business to ensure product quality and safety, including regular quality checks, eco-friendly packaging materials, detailed product descriptions and photos, and a customer service team.

**Marketing strategies and consumer engagement:** This theme covers the role of social media and other marketing strategies in promoting the business's F-commerce activities and engaging with consumers, including showcasing products, sharing customer reviews, running targeted ads, and responding promptly to comments and messages.

**Changes in consumer behavior and business adaptation:** This theme covers the changes in consumer behavior observed since adopting F-commerce, including increased demand for organic products and a preference for contactless delivery options, and the business's adaptation to these evolving needs, including expanding product range and improving delivery options.

**Future of the agro-based industry in Bangladesh and regulatory environment:** This theme covers the potential for F-commerce to revolutionize the agro-based industry in Bangladesh, the need for improvements in the regulatory environment to ensure fair competition and protect consumer rights, and the need for more investment in logistics and infrastructure to support the growth of F-commerce in the country.

### Step 5: Finalizing the themes.

Adoption and challenges of F-commerce

Cost-effectiveness and efficiency of F-commerce

Product quality and safety

Marketing Strategies and consumer engagement

Changes in consumer behavior and business adaptation

Future of the agro-based industry in Bangladesh and the regulatory environment

### Step 6: Writing the analysis.

The interview with the owner of an agro-based SME in Bangladesh revealed six key themes related to the adoption and challenges of F-commerce, its cost-effectiveness and efficiency, product

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quality and safety, marketing strategies and consumer engagement, changes in consumer behavior and business adaptation, and the future of the agro-based industry in Bangladesh and regulatory environment.

The adoption of F-commerce by the business was influenced by the pandemic and the disruption of traditional sales channels. The primary reasons for adopting F-commerce were to reach customers who could not visit the physical store and to expand the customer base. However, the adoption process was not without challenges, including website development, payment system integration, and logistics management.

F-commerce was found to be more cost-effective and efficient than traditional sales channels, eliminating the need for a physical store and reducing transportation costs. It also allowed the business to reach a wider customer base without incurring additional marketing expenses, resulting in increased sales and revenue and improved customer engagement.

The business took measures to ensure product quality and safety, including regular quality checks, eco-friendly packaging materials, detailed product descriptions and photos, and a customer service team. Social media and other marketing strategies were used to promote F-commerce activities and engage with consumers, including showcasing products, sharing customer reviews, running targeted ads, and responding promptly to comments and messages.

Changes in consumer behavior were observed, including increased demand for organic products and a preference for contactless delivery options. The business adapted to these evolving needs by expanding its product range to include more organic options and improving delivery options to provide a safer and more convenient service.

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## **Data analysis of the interview with the business owner (Speaker – 2)**

### **Step 1: Familiarizing with data**

In this transcript, the business owner of an agro-based SME in Bangladesh discusses their experience with using F-commerce as a sales channel for their products.

### **Step 2: Theme**

**Adoption of F-commerce:** The business owner discusses their decision to adopt F-commerce as a sales channel before the pandemic and the primary factors that influenced their decision. They mention the convenience it offers to customers and the ability to reach a larger audience through social media.

**Challenges in adoption:** The business owner discusses the challenges they encountered in setting up an efficient delivery system to ensure the timely delivery of products to customers. They had to invest in delivery personnel and vehicles to ensure that they could fulfill orders in a timely and reliable manner.

**Cost-effectiveness and efficiency of F-commerce:** The business owner believes that F-commerce is a more cost-effective and efficient sales channel than traditional sales channels. They can reach a larger audience through social media, reducing marketing costs and processing orders more efficiently, reducing the time and labour required to process orders manually.

**Product quality and safety:** The business owner discusses the critical concerns of product quality and safety for customers and the steps they take to ensure that their products are of the highest quality and meet all safety standards. They source raw materials from trusted suppliers, have a team that oversees the production process, conduct regular quality control checks, and have a customer service team that promptly addresses concerns raised by customers.

**Social Media and Marketing Strategies:** The business owner describes the role of social media, email marketing, and influencer partnerships in promoting their F-commerce activities and engaging with customers.

Social media platforms like Facebook and Instagram are used to showcase products, run promotions and discounts, and engage with customers through comments and messages. Email marketing is used to inform customers about new products and promotions, and influencers and bloggers are used to showcase products to a larger audience and build brand awareness.

**Changes in Consumer Behavior and Business Adaptation:** The business owner notes a shift in consumer behavior towards convenience and ease of access, which F-commerce provides. The adoption of F-commerce has resulted in an increase in demand for the business's products since they started promoting them through social media. To meet these evolving needs, the business has expanded its product offerings, introduced new products based on customer demand, and focused on improving delivery and customer service.

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Future of the Agro-based Industry in Bangladesh: The business owner sees a lot of potential for the agro-based industry in Bangladesh, especially with the growing demand for organic and locally sourced products.

The use of F-commerce can help reach a wider audience and promote products more efficiently, which is crucial to the growth of the industry.

The business owner would like to see more support from the government in terms of infrastructure, access to finance, and regulations that promote the growth of the industry.

### Step 3: Codes

Convenience for customers

Reach a larger audience.

Boost in sales

Efficient delivery system

Cost-effective and efficient sales channel

Quality and safety concerns addressed.

Role of social media and marketing strategies

A shift in consumer behavior towards convenience and ease of access

Expansion of product offerings

Improving delivery and customer service

Potential growth for the agro-based industry in Bangladesh

Need for government support in infrastructure, access to finance, and regulations.

Need for training and education for SMEs in agro-based industry.

### Step 4: Review the themes.

Adoption of F-commerce: The business owner discusses the primary factors that influenced their decision to adopt F-commerce as a sales channel for their agro-based products, as well as the challenges they encountered during the adoption process.

Cost-effectiveness and efficiency of F-commerce: The business owner assesses the cost-effectiveness and efficiency of F-commerce in comparison to traditional sales channels and describes measurable improvements in their business since its implementation.

Product quality and safety: The business owner discusses how they guarantee product quality and safety for their customers, as well as the specific steps they undertake to address any concerns customers may have.

Marketing strategies: The business owner describes the role of social media and other marketing strategies in promoting their F-commerce activities and how they engage with consumers through these channels.

Changes in consumer behavior and demand: The business owner discusses how they have observed a shift in consumer behavior and demand for agro-based products since adopting F-commerce and how their business has adapted to meet these evolving needs.

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Future of the industry: The business owner envisions a promising future for the agro-based industry in Bangladesh and discusses improvements or modifications they would like to see within the regulatory environment or the sector itself.

Step 5: Name and define the theme.

Adoption of F-commerce: This theme refers to the decision by the agro-based SME to adopt F-commerce (Facebook commerce) as a sales channel for their products. This theme includes factors that influenced the adoption of F-commerce, challenges encountered during the adoption process, and how F-commerce compares to traditional sales channels.

Product quality and safety: This theme relates to the measures taken by the business owner to guarantee the quality and safety of their products. It includes the steps taken to ensure the hygienic production of products, regular quality control checks, and the availability of a customer service team to address any concerns raised by customers.

Marketing strategies: This theme refers to the marketing strategies used by agro-based SMEs to promote their F-commerce activities. This theme includes the role of social media and email marketing in promoting the products, engaging with customers, and working with influencers and bloggers to showcase the products to a larger audience.

Consumer behavior and demand: This theme relates to changes in consumer behavior and demand for agro-based products since the adoption of F-commerce. It includes the shift towards convenience and ease of access and the need to expand product offerings to meet evolving needs.

Future of the industry: This theme refers to the business owner's vision for the future of the agro-based industry in Bangladesh and the improvements or modifications they would like to see within the regulatory environment or the sector itself. This theme includes the potential for growth in the industry and the need for government support, access to finance, and training and education for SMEs.

Step 6: Report the result.

Based on the thematic analysis of the interview transcript, the following themes were identified:

Adoption of F-commerce: This theme pertains to the reasons why the business owner decided to use F-commerce as a sales channel for their agro-based products, the challenges encountered during the adoption process, and the cost-effectiveness and efficiency of F-commerce compared to traditional sales channels.

Product quality and safety: This theme refers to the measures taken by the business owner to ensure that their products are of high quality and meet safety standards, as well as the steps taken to address any concerns raised by customers.

Marketing strategies: This theme relates to the role of social media and other marketing strategies in promoting the business owner's F-commerce activities and how they engage with consumers through these channels.

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Consumer behavior and demand: This theme discusses the changes in consumer behavior and demand for agro-based products observed since the adoption of F-commerce and how the business has adapted to meet these evolving needs.

Future of the agro-based industry: This theme pertains to the business owner's vision for the future of the agro-based industry in Bangladesh and the improvements or modifications they would like to see within the regulatory environment or the sector itself.

Overall, the thematic analysis reveals that F-commerce has been a game-changer for agro-based SMEs in Bangladesh, enabling them to reach a wider audience, promote their products more efficiently, and improve their sales. The business owner emphasizes the importance of ensuring product quality and safety, as well as engaging with customers through social media and other marketing strategies to build brand awareness. Additionally, the analysis highlights the need for more government support, infrastructure, and training and education for SMEs in the agro-based industry to help them compete in the global market.

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### **Data analysis of the interview with the business owner (Speaker – 3)**

#### Step 1: Familiarization with the data

The interview is with a characteristic of an agro-based SME in Bangladesh that is utilizing F-commerce to sell its products. The interview covers topics such as product quality and safety, customer engagement and service, marketing strategies, consumer behavior and demand, and the future of the industry.

#### Step 2: Identify potential themes.

Importance of product quality and safety  
 Customer engagement and service through social media  
 Use of social media and targeted advertising in marketing strategies  
 Changes in consumer behavior and demand  
 Business adaptation to meet evolving consumer needs.  
 Need for regulatory and sector improvements.

#### Step 3: Coding

Product quality and safety  
 Customer engagement and service  
 Marketing strategies  
 Consumer behavior and demand  
 Business adaptation  
 Regulatory and sector improvements

#### Step 4: Review of themes

The themes cover a range of topics related to the use of F-commerce by an agro-based SME in Bangladesh, including product quality and safety, customer engagement and service, marketing strategies, consumer behavior and demand, business adaptation, and regulatory and sector improvements.

#### Step 5: Define and name themes.

Quality and safety assurance  
 Customer engagement and service  
 Social media and targeted advertising  
 Evolving consumer behavior and demand  
 Business adaptation to consumer needs  
 Regulatory and sector support

#### Step 6: Report results

The interview with the characteristic of the agro-based SME in Bangladesh utilizing F-commerce revealed six main themes related to their business activities: quality and safety assurance, customer engagement and service, social media, and targeted advertising, evolving consumer behavior and demand, business adaptation to consumer needs, and regulatory and sector support. The respondent discussed the importance of product quality and safety, the use of social media to engage with customers and promote F-commerce activities, changes in consumer behavior

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and demand, business adaptations to meet these needs, and the need for more support from the government in terms of regulatory frameworks and financial assistance, as well as investment in infrastructure to facilitate online sales.

### **Data analysis of the interview with the business owner (Speaker – 4)**

#### **Step 1: Familiarize with the Data**

The interview is conducted with an SME business owner in Bangladesh who has adopted F-commerce as a sales channel for their agro-based products. The discussion covers various aspects of F-commerce, including the primary factors that influenced the adoption decision, challenges encountered, cost-effectiveness, efficiency, product quality and safety, social media, and marketing strategies, changes in consumer behavior and demand, and the future of the industry.

#### **Step 2: Identifying Initial Codes**

Primary factors for adopting F-commerce challenges encountered are cost-effectiveness, efficiency, product quality and safety, social media and marketing strategies, changes in consumer behavior and demand, and the industry's future.

#### **Step 3: Searching for Themes**

##### **Theme 1: Adoption Factors and Challenges**

Adoption is driven by a desire to expand the customer base, tap into online trends, and streamline the sales process.

Challenges include investment in technology and training, packaging, and logistics, and building customer trust

##### **Theme 2: Cost-Effectiveness and Efficiency**

F-commerce significantly reduces overhead costs and improves profit margins.

Streamlined sales process frees up time for other aspects of business.

##### **Theme 3: Product Quality and Safety**

A top priority for selling products online.

Sourced from reputable suppliers and subject to regular quality checks

Detailed product descriptions and photos provided to customers

Packaging materials are safe and secure, and products are stored and transported at the correct temperatures.

The customer support team is available to address concerns.

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#### Theme 4: social media and Marketing Strategies

Platforms like Facebook, Instagram, and YouTube are used to showcase products, share reviews, and run promotions.

Collaboration with influencers and bloggers to build brand awareness.

Engage with customers by responding to comments and messages and providing informative and engaging content.

#### Theme 5: Changes in Consumer Behavior and Demand

More people are turning to online platforms for convenient and accessible grocery shopping.

SME business has expanded its product range and optimized its online platform.

Implemented fast and reliable delivery service to meet evolving needs.

#### Theme 6: Future of the Industry and Regulatory Environment

Digital transformation and leveraging new technologies and online platforms key to future success.

Government and regulatory bodies should provide more support for SMEs and startups, including funding, tax breaks, and other incentives.

More regulation around food safety and product quality standards is needed to ensure all businesses are meeting the highest standards.

#### Step 4: Reviewing Themes

The identified themes provide a comprehensive understanding of the various aspects of F-commerce in the agro-based industry in Bangladesh. They cover the adoption factors and challenges, cost-effectiveness and efficiency, product quality and safety, social media and marketing strategies, changes in consumer behavior and demand, and the future of the industry and regulatory environment.

#### Step 5: Defining and Naming Themes

Theme 1: Adoption Factors and Challenges

Theme 2: Cost-Effectiveness and Efficiency

Theme 3: Product Quality and Safety

Theme 4: social media and Marketing Strategies

Theme 5: Changes in Consumer Behavior and Demand

Theme 6: Future of the Industry and Regulatory Environment

#### Step 6: Producing the Report

The interview with an SME business owner in Bangladesh adopting F-commerce as a sales channel for their agro-based products has been thematically analyzed. The analysis identified six themes, including Adoption Factors and Challenges, Cost-Effectiveness and Efficiency, Product Quality and Safety, social media and Marketing Strategies, Changes in Consumer Behavior and Demand, and the Future of the Industry and Regulatory Environment. The themes provide a comprehensive understanding of the various aspects of F-commerce in the agro-based industry in Bangladesh.

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### **Data analysis of the interview with the customer (Speaker – 5)**

#### **Step 1: Familiarize with the data**

In this interview, the respondent shares their experience of purchasing agro-based products through F-commerce channels in Bangladesh. The interviewer asks questions about the factors that influence the respondent's purchasing behavior, their level of satisfaction with the F-commerce experience, and their perceptions of the quality, safety, and trustworthiness of agro-based products and SMEs selling them through this channel.

#### **Step 2: Identify recurring themes.**

The following themes emerge from the interview:

**Convenience:** The respondent highlights the convenience of shopping from home and having products delivered directly to their doorstep as a key factor influencing their purchasing behavior.

**Price:** The respondent mentions that the prices of agro-based products sold by SMEs through F-commerce are often more affordable than those sold in traditional retail stores.

**Quality and safety:** The respondent expresses concern about the variability in the quality and safety of agro-based products sold through F-commerce and looks for certifications and labels to ensure that the products meet certain quality and safety standards.

**Delivery:** The respondent emphasizes the importance of a reliable and efficient delivery system in ensuring a positive shopping experience for customers.

**Product selection:** The respondent notes that the selection of products on F-commerce can be more limited than that of online marketplaces, making it challenging to find specific products or compare prices.

**Promotions and discounts:** The respondent suggest that SMEs could offer promotions and discounts for bulk purchases as a way to incentivize customers to buy more products.

#### **Step 3: Generate Initial Codes**

Based on these themes, we can generate initial codes to help organize the data. Some examples of codes include:

Convenience and price  
Trust and reliability

Quality and safety  
Challenges and improvement  
Changes in behavior  
Channel Comparison

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#### Step 4: Define and refine themes.

Based on the recurring themes identified, we can refine our understanding of the following concepts:

Convenience refers to the ease and comfort of shopping from home and having products delivered to one's doorstep.

Price refers to the cost of agro-based products sold through F-commerce and how it compares to the prices of similar products sold in traditional retail stores.

Quality and safety refer to the reliability and safety of agro-based products sold through F-commerce, as well as the certifications and labels that help consumers ensure that they are purchasing high-quality and safe products.

Delivery refers to the process of delivering products from SMEs to customers and how it impacts the shopping experience.

Product selection refers to the variety and availability of agro-based products on F-commerce compared to traditional retail stores or online marketplaces.

Promotions and discounts refer to the offers provided by SMEs to incentivize customers to purchase more products.

#### Step 5: Review the themes.

The themes identified in Step 2 are interrelated and can be mapped as follows:

Convenience and price are factors that influence the respondent's purchasing behavior. Quality and safety are important considerations when buying agro-based products through F-commerce, as is the reliability of the delivery system. The limited selection of products on F-commerce can be a drawback, but SMEs can incentivize customers to purchase more by offering promotions and discounts.

#### Step 6: Result

The findings suggest that convenience, price, and quality are important factors that influence consumers' decisions to purchase agro-based products through F-commerce channels in Bangladesh. However, concerns about the variability in quality and safety, as well as the reliability of the delivery system, suggest that SMEs need to take steps to improve their F-commerce activities and better meet the needs of their customers. Providing clear information about the origin and production process of the products, offering promotions and discounts for bulk purchases, and investing in a user-friendly and reliable delivery system are some of the ways SMEs can enhance their F-commerce activities.

Overall, the interview provides valuable insights into the factors that influence consumers' decisions to purchase agro-based products through F-commerce channels in Bangladesh.

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## Data analysis of the interview with the customer (Speaker – 6)

### Step 1: Familiarize with the Data

The interview discusses the experience of a consumer in Bangladesh purchasing agro-based products through F-commerce channels. The conversation covers various topics, including the factors that influence the consumer's purchasing decision, the satisfaction level of the shopping experience, product quality, and safety, changes in purchasing behavior, and comparisons between F-commerce and other channels.

### Step 2: Search for Themes

To identify the themes, we can look for recurring topics and issues discussed in the interview. Some of the themes that emerge from the conversation include:

- Convenience and price as key factors in the purchasing decision
- Trust and reliability of SMEs and their products
- Quality and safety concerns in agro-based products
- Challenges and areas for improvement in F-commerce activities
- Changes in purchasing behavior and preferences.
- Comparison between F-commerce and other channels

### Step 3: Generate Initial Codes

Based on these themes, we can generate initial codes to help organize the data. Some examples of codes include:

- Convenience and price
- Trust and reliability
- Quality and safety
- Challenges and improvement
- Changes in behavior
- Channel Comparison

### Step 4: Name and Define Themes

After generating initial codes, we can name and define each theme more precisely. For example:

**Convenience and price:** Factors that motivate the consumer's decision to purchase agro-based products through F-commerce channels, including price affordability, the ability to shop from home, and quick delivery service.

**Trust and reliability:** Consumer concerns regarding the quality and safety of agro-based products sold through F-commerce, the importance of certifications and labeling, and the need for clear information about the origin and production process of the products.

**Quality and safety:** Consumer perception of the quality and safety of agro-based products, the potential variability in product quality, and the need for consistent standards and quality control.

**Challenges and improvement:** Areas where SMEs in Bangladesh can enhance their F-commerce activities include improving product quality and consistency, offering promotions and discounts, and investing in a user-friendly and reliable delivery system.

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Changes in behavior: How the consumer's purchasing behavior and preferences have evolved since using F-commerce to buy agro-based products, including purchasing more items in bulk and comparing products from multiple SMEs before making a purchase.

Channel comparison: A comparison between F-commerce and other channels, including traditional retail stores and online marketplaces, in terms of reliability, convenience, and user-friendliness.

#### Step 5: Review the Themes

After naming and defining each theme, we can review and refine them to ensure they accurately represent the data and capture the most relevant information. We can also look for relationships and connections between the themes, such as how changes in purchasing behavior are related to consumer concerns about trust and reliability.

#### Step 6: Report the Results

Based on the thematic analysis, we can report the key findings and insights from the interview. For example, we can conclude that price and convenience are critical factors that motivate consumers to purchase agro-based products through F-commerce channels, but that concerns about trust, reliability, and quality control can also impact consumer behavior. SMEs in Bangladesh can enhance their F-commerce activities by focusing on improving product quality and consistency, providing clear information about their products, and investing in a reliable delivery system. Finally, while F-commerce offers convenience and user-friendliness, traditional retail stores and online marketplaces still offer some advantages, such as a wider selection of products and better price comparison tools.

### **Data analysis of the interview with the customer (Speaker – 7)**

#### Step 1: Familiarize with the Data

The interview is about a customer's experience of purchasing agro-based products through F-commerce channels. The interviewer asks questions about the factors that influenced the customer's decision to purchase agro products through F-commerce, the overall experience, challenges encountered, the quality, safety, and trustworthiness of the products, and how the overall shopping experience compares to other channels. The interview concludes with the customer's suggestions for agro-based SMEs in Bangladesh to enhance their F-commerce activities.

#### Step 2: Search for themes

Factors influencing purchase decisions, experience, challenges, product quality, safety, and trustworthiness, changes in purchasing behavior and preferences, comparison with other channels, and suggestions for improvement.

#### Step 3: Generate initial codes.

Factors influencing purchase decisions: price, convenience, social media ads.

Experience: positive, cost-effective, user-friendly.

Challenges: product not as shown online.

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Product quality, safety, and trustworthiness: good quality, no safety concerns, certification or labeling needed.

Changes in purchasing behavior and preferences: increased online purchases, no preference for product categories or types.

Comparison with other channels: more convenient and user-friendly than traditional retail, less reliable than online marketplaces like Amazon.

Suggestions for improvement: more user-friendly and well-designed website or app, more certifications or labeling.

Step 4: Name and define themes.

Purchase decision factors: The factors that influence a customer's decision to purchase agro products through F-commerce, such as price, convenience, and social media ads.

Experience: The customer's overall experience of purchasing agro products through F-commerce, including positive, cost-effective, and user-friendly aspects.

Challenges: Any difficulties or concerns encountered during the purchasing process, such as products not being exactly as shown online.

Product quality, safety, and trustworthiness: The customer's perceptions of the quality, safety, and trustworthiness of the products purchased through F-commerce, including the need for certifications or labeling.

Changes in purchasing behavior and preferences: Any changes in the customer's purchasing behavior and preferences since using F-commerce, including increased online purchases and no particular preference for product categories or types.

Comparison with other channels: A comparison of the overall shopping experience of F-commerce with other channels, such as traditional retail and online marketplaces like Amazon, in terms of reliability, convenience, and user-friendliness.

Suggestions for improvement: Recommendations for agro-based SMEs in Bangladesh to enhance their F-commerce activities and better align with consumer expectations, such as having a more user-friendly and well-designed website or app and providing more certifications or labeling.

Step 5: Review the theme.

The themes identified provide a comprehensive overview of the customer's experience of purchasing agro-based products through F-commerce channels. The themes cover a range of topics, including the factors that influence purchase decisions, the overall experience of using F-commerce, challenges encountered, the quality, safety, and trustworthiness of the products purchased, changes in purchasing behavior and preferences, a comparison with other channels, and suggestions for improvement.

Step 6: Report the result.

The thematic analysis of the interview identified seven themes: purchase decision factors, experience, challenges, product quality, safety, and trustworthiness, changes in purchasing behavior and preferences, comparison with other channels, and suggestions for improvement. These

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themes provide insight into the customer's experience of using F-commerce to purchase agro-based products and highlight areas where agro-based SMEs in Bangladesh could improve their F-commerce activities.

**Data analysis of the interview with the customer: (Speaker – 8)**

**Step 1: Familiarize with the Data**

The interview is about a customer's experience of purchasing agro-based products through F-commerce channels in Bangladesh. The customer discusses factors that influence their purchasing decisions, their satisfaction with the overall experience, challenges encountered, their perception of product quality and safety, changes in purchasing behavior, and comparisons with other channels. The interview ends with the customer providing suggestions and recommendations for agro-based SMEs to enhance their F-commerce activities.

**Step 2: Search for themes**

Factors influencing purchasing decisions, overall satisfaction, challenges encountered, product quality and safety, changes in purchasing behavior, and comparisons with other channels, suggestions, and recommendations for agro-based SMEs.

**Step 3: Generate initial codes.**

Factors: price, convenience, quality of products, discovering SMEs through social media and word of mouth

Satisfaction: easy and convenient process, good quality products, reasonable prices, timely and efficient resolution of issues

Challenges: delayed delivery, receiving incorrect products

Product quality and safety: generally good; look for certifications and labels.

Changes in purchasing behavior: preference for purchasing all agro-based products through F-commerce, a wider range of products, better deals.

Comparisons with other channels: more reliable, convenient, and user-friendly than other channels, easy to browse products, compare prices, and track delivery.

Suggestions and recommendations: wider range of products, improve product quality, competitive prices, improve customer service and communication, offer additional incentives or promotions, invest in technology and infrastructure.

**Step 4: Name and define theme.**

Factors influencing purchasing decisions: Price, convenience, and quality of products are key factors that influence the customer's decision to purchase agro-based products through F-commerce channels. They discovered SMEs through social media and word of mouth.

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**Satisfaction with overall experience:** The customer is satisfied with the easy and convenient process, good quality products, reasonable prices, and timely and efficient resolution of issues.

**Challenges encountered:** The customer encountered some challenges during the early days of using F-commerce, such as delayed delivery or receiving incorrect products.

**Product quality and safety:** The customer perceives the quality and safety of agro-based products sold through F-commerce channels as generally good. They look for certifications and labels to ensure that products meet certain quality and safety standards.

**Changes in purchasing behavior:** The customer now prefers to purchase all agro-based products through F-commerce because it is more convenient and efficient. They can find a wider range of products and compare prices easily, and they find that they can get better deals through F-commerce than at traditional retail stores.

**Comparisons with other channels:** The customer finds that F-commerce is more reliable, convenient, and user-friendly than other channels. They can easily browse products, compare prices, and track delivery.

**Suggestions and recommendations:** SMEs in Bangladesh should focus on providing a wider range of products, improving the quality of their products, and ensuring that their prices are competitive. They should also work on improving their customer service and communication with customers to resolve any issues quickly and efficiently. Additionally, they should consider offering additional incentives or promotions to encourage repeat business and customer loyalty. Finally, SMEs should also invest in technology and infrastructure to ensure that their F-commerce platform is user-friendly, reliable, and secure.

**Step 5: Review the themes.**

After identifying the initial codes and grouping them into broader themes, the next step is to review and refine the themes. Here are the final themes that emerged from the analysis:

**Factors influencing purchase decision:** This theme encompasses the factors that influence the customer's decision to purchase agro-based products through F-commerce channels, including price, convenience, and quality.

**Discovery of SMEs and their offerings:** This theme pertains to how the customer discovered the SMEs and their agro-based products, primarily through social media platforms, online marketplaces, and word of mouth.

**Satisfaction with F-commerce experience:** This theme refers to the overall satisfaction of the customer with the F-commerce experience, including the ease and convenience of the process, quality of products, and reasonable prices.

**Perceptions of product quality, safety, and trustworthiness:** This theme captures the customer's perceptions of the quality, safety, and trustworthiness of agro-based products and the SMEs selling them through F-commerce channels, including the importance of certifications and labeling.

**Evolution of purchasing behavior and preferences:** This theme describes how the customer's purchasing behavior and preferences have evolved since using F-commerce for buying agro-based

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products, including a preference for purchasing all agro-based products through F-commerce and finding better deals through this channel.

Comparison of F-commerce with other channels: This theme explores how the overall shopping experience of F-commerce compares to other channels, including traditional retail and online marketplaces, in terms of reliability, convenience, and user-friendliness.

Step 6: Report the results.

Overall, the thematic analysis of the interview identified six themes that provide insight into the customer's experience purchasing agro-based products through F-commerce channels in Bangladesh. These themes include factors influencing purchase decisions, the discovery of SMEs and their offerings, satisfaction with F-commerce experience, perceptions of product quality, safety, and trustworthiness, the evolution of purchasing behavior and preferences, and comparison of F-commerce with other channels. These findings can help agro-based SMEs in Bangladesh to better understand consumer expectations and enhance their F-commerce activities to improve the overall customer experience.

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