

FarmLink: Understanding the Needs of Farmers and Customers

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Abstract- FarmLink is a digital platform designed to connect producers and customers, providing a seamless marketplace for buying and selling a variety of agricultural products. The system aims to reduce market inefficiencies, ensure fair pricing, and enhance transparency throughout the supply chain. Key features include user registration, product listing, agent management, order processing, and secure payment handling. A survey-based study was conducted to understand the challenges faced by producers and the preferences of customers, which informed the design and functionality of the platform. The findings suggest that FarmLink can improve market access for producers, simplify purchasing for customers, and optimize overall product distribution in the agricultural sector.

Keywords: FarmLink, agriculture, digital marketplace, producer–customer interaction, supply chain management, agent-based system, e-commerce, product distribution.

I. Introduction

Agriculture is a critical sector in Bangladesh, contributing significantly to the economy and employment. However, farmers often face challenges such as limited market access, price manipulation by intermediaries, and inefficient distribution channels. Existing solutions, including local marketplaces and informal trading networks, fail to provide transparency and fair pricing consistently.

To address these issues, this report presents FarmLink, a digital platform that connects farmers directly with consumers and businesses. FarmLink enables efficient product listing, secure payment handling, and streamlined order management, reducing dependency on middlemen and enhancing market access for farmers. The proposed system aims to improve transparency, fairness, and efficiency in agricultural trade.

II. Methodology

A structured, question-based survey was conducted through Google Forms to collect data from both farmers and customers. A total of 63 participants responded, including 25 farmers and 46 customer entries, as some farmers also participated as buyers. The questionnaire was prepared in both English and Bangla to maximize accessibility and clarity, and it included both closed-ended questions for quantitative data and open-ended questions to capture qualitative insights about user needs, preferences, and challenges.

Customer responses were gathered through the TorrentBD online community platform, while farmer responses were collected with the help of local contacts in farming areas. The survey was conducted over a five-day period, from 12–16 September 2025, focusing on challenges in selling crops, pricing, freshness, quality, delivery, and trust. Responses were analyzed using frequency counts and percentages to identify major issues and expectations, providing insights into how FarmLink could effectively connect farmers and customers.

III. Results and Discussion

Farmer Section:

1. Challenges in Selling Crops

It can be observed from the survey that most farmers face issues related to low prices, dependence on middlemen, and delayed payments. Specifically, 76% of farmers reported receiving low prices for their crops, 12% cited dependence on middlemen, 8% mentioned delayed payments, and 4% reported lack of direct customer access.

1. When selling your crops, what is your biggest challenge? আপনার ফসল বিক্রি করার সময় সবচেয়ে বড় সমস্যা কী?
25 responses

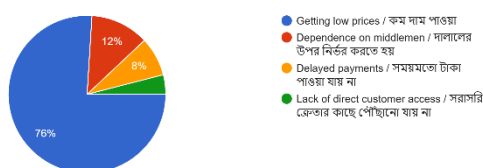


Figure 1 Farmers' biggest challenges when selling products.

Most farmers feel they have little control over crop prices. 72% reported having no control, 24% very little control, and only 4% moderate control. No respondents reported full control over pricing.

2. How much control do you feel you have over the price of your crops? আপনার ফসলের দাম ঠিক করার ক্ষেত্রে আপনার কতটুকু নিয়ন্ত্রণ আছে বলে মনে করেন?
25 responses

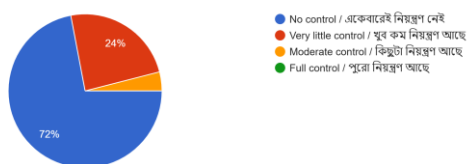


Figure 2 Farmers' perceived control over product pricing.

3. Middlemen Impact

All farmers (100%) agreed that middlemen reduce their profits significantly.

3. Do you think middlemen reduce your profit? আপনি কি মনে করেন দালালরা আপনার লাভ কমিয়ে দেয়?
25 responses



Figure 3 Farmers' opinion on middlemen.

6. FarmLink Adoption

Nearly all farmers (96%) indicated they would use FarmLink if it allowed selling crops directly to customers at fair prices.

5. If FarmLink lets you sell crops directly to customers at a fair price, would you use it? যদি FarmLink আপনাকে ন্যায্য দামে সরাসরি ক্রেতার কাছে ফসল বিক্রির সুযোগ দেয়, আপনি কি এটি ব্যবহার করবেন?
25 responses

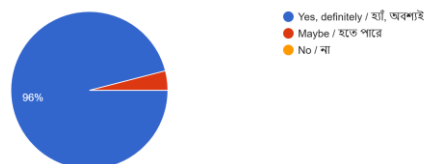


Figure 4 Farmers' willingness to use FarmLink for direct sales at fair prices

Customer Section:

1. Problems When Buying Fresh Products

Customers face high prices (73.9%), poor freshness (32.6%), limited availability (23.9%), poor quality (21.7%), and lack of trust in sellers (19.6%).

1. What problems do you face when buying fresh products?
46 responses

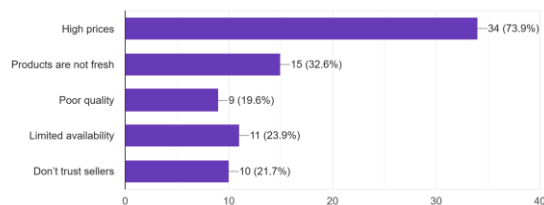


Figure 5 Problems faced by customers when buying fresh products

2. Price Perception

Most customers (78.3%) felt they pay more than what farmers actually receive.

2. Do you feel you pay more than what farmers actually get?
46 responses

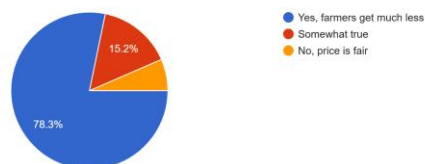


Figure 6 Customers' perception of whether they pay more than

Discussion:

From the survey results, it is evident that FarmLink can address the key challenges faced by both farmers and customers. Farmers primarily struggle with low prices, middlemen, and limited market access, while customers are concerned about product freshness, price, and trust.

The data highlights that most farmers are willing to adopt FarmLink if it ensures fair prices and provides direct access to customers. Similarly, customers are highly motivated to use the platform for lower prices, fresh produce, and direct connections with farmers.

These findings validate the core objectives of FarmLink improving profit margins for farmers, increasing transparency, and enhancing customer satisfaction. Additionally, the survey indicates the need for support features such as assistants for farmers and a user-friendly interface to overcome technological barriers.

In conclusion, implementing FarmLink has strong potential to streamline agricultural trade, reduce reliance on intermediaries, and create a mutually beneficial marketplace for both farmers and consumers.

IV. Conclusion

The survey of 63 participants, including 25 farmers and 38 customers, revealed key challenges in Bangladesh's agricultural trade. Farmers mainly struggle with low crop prices (76%) and heavy reliance on middlemen, and most feel they have little or no control over pricing. Customers, on the other hand, face high prices (73.9%) and concerns about product freshness (73.9%).

The results show a clear opportunity for FarmLink. Most farmers (96%) are willing to use the platform if it guarantees fair prices and direct access to customers, while most customers (78.3%) would use it to buy directly from farmers, valuing freshness, lower prices, and reliable delivery.

FarmLink can therefore serve as a bridge between farmers and consumers, reducing intermediaries, improving income for farmers, and ensuring better-quality products for customers.

Importantly, FarmLink is not just a technological solution it can help empower farmers to take control of their business and foster trust between producers and consumers, creating a more fair and transparent agricultural marketplace.

A. Limitations

This study has a few limitations. The survey was conducted with 63 respondents, which may not fully represent the wider farming and consumer population across Bangladesh. In addition, many farmers reported difficulties in using digital tools, suggesting that technology adoption may be a challenge for large-scale implementation. Furthermore, as the data relied on self-reported responses, there is a possibility of bias or overstatement of willingness to use FarmLink. Finally, the short duration of the survey and limited geographic coverage may have restricted the diversity and depth of feedback.

B. Suggestions:

To address these challenges, FarmLink should incorporate transparent pricing mechanisms to ensure fair returns for farmers and trust among consumers. Providing assisted onboarding, training sessions, and local support would help farmers who are less familiar with technology to adopt the platform more effectively. From the customer side, reliable logistics, freshness guarantees, and secure payment systems are essential to build confidence. Additional features such as farmer rating systems, group orders, and real-time farm updates may further improve usability and trust. A phased rollout, beginning with selected regions and crops, is recommended to allow pilot testing and refinement before wider expansion.

V. REFERENCES

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2. Dey, S., Kumar, P., Paul, A. K., & Fazalul, A. (2022). "A Study on how Bangladeshi farmers have adapted to digital technologies during the COVID-19 pandemic". *Brindaban Government College Journal*, 1(2), 40–45.

VI. Acknowledgment

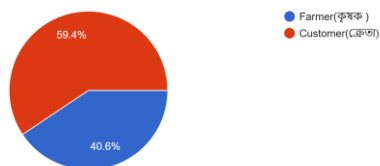
The authors would like to thank the farmers and customers who participated in the survey and generously shared their time and insights, without which this study would not have been possible. The authors also acknowledge the support of local individuals who assisted in distributing and collecting the survey responses. Finally, the authors extend their sincere gratitude to Dipty Rahman, Faculty of Business Communication, AIUB, for her valuable guidance, encouragement, and constructive feedback throughout the preparation of this report.

VII. APPENDIX

A. Farmer Section

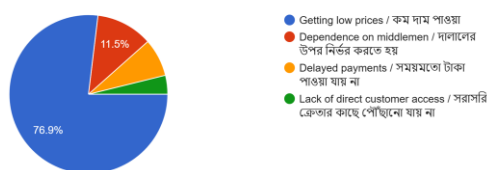
Are you a Farmer or a Customer? আপনি কি একজন কৃষক নাকি একজন ক্রেতা?

64 responses



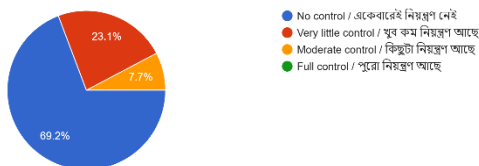
1. When selling your crops, what is your biggest challenge? আপনার ফসল বিক্রি করার সময় সবচেয়ে বড় সমস্যা কী?

26 responses



2. How much control do you feel you have over the price of your crops? আপনার ফসলের দাম ঠিক করার ক্ষেত্রে আপনার কতটুকু নিয়ন্ত্রণ আছে বলে মনে করেন?

26 responses



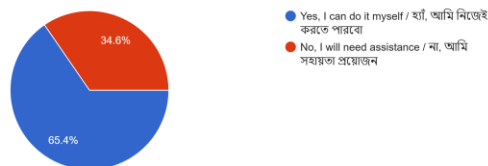
3. Do you think middlemen reduce your profit? আপনি কি মনে করেন দালালরা আপনার লাভ কমিয়ে দেয়?

26 responses



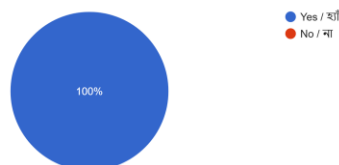
4. Can you use a mobile phone or app to list your products yourself? আপনি কি মোবাইল/অ্যাপ ব্যবহার করে নিজের পণ্য তালিকাভুক্ত করতে পারবেন?

26 responses



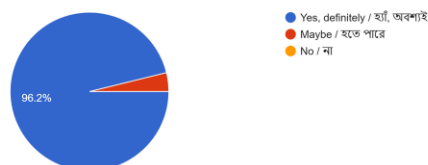
4. If an assistant helps you, would that be helpful for you? যদি একজন সহকারী আপনাকে সাহায্য করেন, সেটা কি আপনার জন্য উপকারী হবে?

26 responses



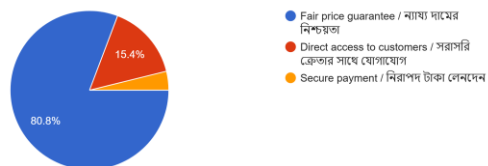
5. If FarmLink lets you sell crops directly to customers at a fair price, would you use it? যদি FarmLink আপনাকে ন্যায্য দামে সরাসরি ক্রেতার কাছে ফসল বিক্রির সুযোগ দেয়, আপনি কি এটি ব্যবহার করবেন?

26 responses



6. What feature of FarmLink would be most useful for you? FarmLink-এর কোন সুবিধাটি আপনার কাছে সবচেয়ে উপকারী হবে?

26 responses



7. What might stop you from using FarmLink?

কোন কারণে আপনি FarmLink ব্যবহার করতে না চাইতে পারেন?

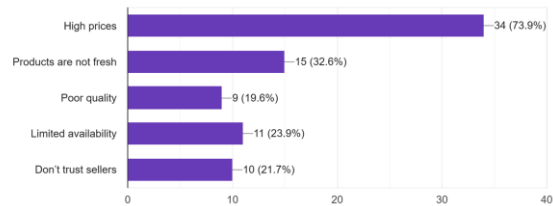
8 responses

Advance technology
Farmlink ব্যবহারের অজ্ঞতা
যদি দাম না পাই
G
No issues
সরাসরি ফ্রেসার সাথে যোগাযোগ ব্যাহত হলে
Yes
পণ্যের মান ও দাম নিয়ে আশ্ব না থাকলে আমি FarmLink ব্যবহার করব না।

B. Customer Section:

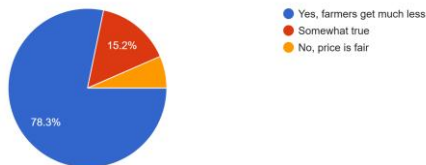
1. What problems do you face when buying fresh products?

46 responses



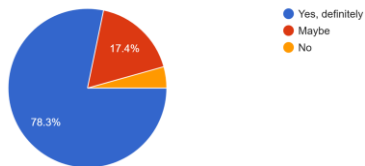
2. Do you feel you pay more than what farmers actually get?

46 responses



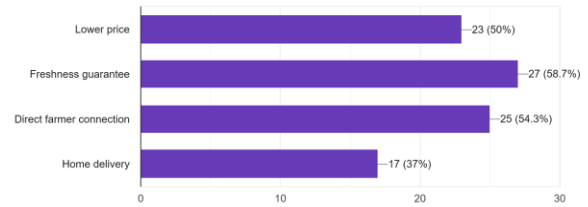
3. If FarmLink lets you buy directly from farmers at lower prices, would you use it?

46 responses



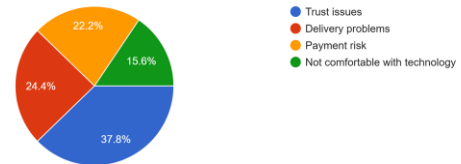
4. Which feature of FarmLink would attract you the most?

46 responses



5. What concern might stop you from using FarmLink?

45 responses



6. Do you have any other suggestions or expectations that would make FarmLink more useful for you?

20 responses

