AGRISTORE: UI/UX DESIGN FOR FARMERSE-COMMERCE WEBSITE AND MOBILE APPLICATION DESIGN

[1]Mr.Darshan Gowda SM, [2]Ms.Kalpana K

[1]Department of CSE (School of Engineering), Presidency University, Karnataka
darshan171201@gmail.com
[2] Department of CSE (School of Engineering), Presidency University, Karnataka
Kalpana.k@presidencyuniversity.in

Abstract—**The UI/UX design for AgriStore, a framers e-commerce website, and mobile application, aims to create an intuitive, visually appealing platform that allows customers to easily purchase custom picture frames and other related products. The website and mobile application will serve as the primary digital storefront for the company, providing customers with the ability to browse products, place orders, and manage their accounts. In addition, the platform will allow farmers to upload their own content, including images of their crops and products, as well as information about their farming practices and techniques. This will create a community-driven platform that highlights the work and expertise of farmers, while also providing customers with a more immersive and informative experience. The design will focus on creating a modern, minimalist aesthetic that emphasizes high-quality imagery and clean typography. The use of white space will create a professional and sophisticated appearance, while accent colours and bold typography will highlight important information and add visual interest. The UI design will prioritize simplicity and ease of use, with a responsive layout that adapts to different screen sizes and devices. The navigation menu will be intuitive, allowing customers to easily find what they need, and product pages will feature clear descriptions, high-quality images, and an intuitive ordering system. The UX design will focus on creating a seamless and enjoyable experience for customers. The website and mobile application will be designed with the user journey in mind, with features such as a streamlined checkout process, saved payment and shipping information, and order tracking to enhance the user experience and encourage repeat business. Overall, the UI/UX design for Agristore will prioritize simplicity, ease of use, and a visually appealing design to create a platform that customers and farmers will enjoy using and ultimately drive business growth and success. By providing a seamless and enjoyable experience for customers, and a platform for farmers to showcase their work, Agristore will become the go-to destination for custom picture frames and related products, cementing the company's position as a leader in the framing industry.**

I. INTRODUCTION

AgriStore is a company that specialises in framing tools and supplies. In the current digital era, e-commerce platforms are more important than ever for companies trying to grow their consumer base and increase revenue. AgriStore intends to launch an online store and a mobile application where customers can buy the company's goods and farmers can sell their items in order to better serve its customers. The

success of the AgriStore e-commerce platform is significantly influenced by both the user interface (UI) and user experience (UX) designs. The UX design focuses on the platform's overall user experience, whereas the UI design focuses on creating a visually appealing and intuitive interface that makes it easy for users to navigate the website or application. The goal of this research study is to offer a thorough examination of the UI/UX design for the online store AgriStore. The design process, user research, UI design principles, and UX design principles will all be covered in this essay. Additionally, it will offer suggestions for how AgriStore may strengthen the UI/UX design of its e-commerce platform in order to improve user experience and boost conversion rates. AgriStore's platform will serve both buyers and sellers, so the UI/UX design must take both groups' needs and preferences into account. It needs to be simple to use, visually appealing, and equipped with functions that make buying and selling transactions effortless. The paper will go through how the platform's design can accommodate both buyers' and sellers' needs while enhancing the user experience as a whole. In conclusion, an effective e-commerce platform can assist AgriStore in expanding its customer base and boosting sales. This study will shed light on the UI/UX design procedure and assist AgriStore in developing a platform that is user-friendly, aesthetically pleasing, and satisfies the requirements of its users and farmers.

II. PROJECT OVERVIEW

The goal of this project is to create a user-cantered user interface and user experience (UI/UX) for a mobile application and e-commerce website for farmers called Agristore. Farmers will have a platform to buy and sell agricultural goods, get market data, and connect with other farmers and industry professionals thanks to the Agristore website and mobile application. The project will adopt a user-cantered design methodology, which include doing user research, designing user personas, creating information architecture and wire-frames, performing usability testing, and revising the design in response to user feedback. In order to determine the current industry trends and best practises in UI/UX design for mobile

applications and e-commerce websites, the project will also involve doing a competitive analysis.

The user-friendliness, accessibility, and responsiveness are prioritised in the design of the Agristore website and mobile application. A product catalogue, safe online ordering, market news and analysis, a forum for farmers to network and collaborate, and other essential features and capabilities will also be part of the website and mobile application.

The undertaking will be broken down into the following stages:

- Research and analysis: To determine user needs, preferences, and market trends, this phase will involve completing a literature study, user research, and competition analysis.
- Design and prototyping: This phase will involve building user personas, information architecture, and wireframes based on the research phase's findings, as well as prototyping the design.
- Usability testing and iteration: During this phase, testing for usability will be done to gauge the way the design works, and the design can be enhanced depending on user feedback.
- Implementation and evaluation: After the design is complete, this step entails putting the design into action in the Agristore website and mobile application and assessing the design's effectiveness after it has been put into action.

An Agristore e-commerce website and mobile application that fulfils the needs and preferences of farmers and aids them in performing their daily tasks is the project's anticipated end outcome.

III. PROBLEM STATEMENT

Due to the scarcity of physical businesses in their area, farmers are unable to easily obtain agricultural supplies and products, which results in expensive transportation costs and time-consuming excursions to buy necessities. Farmers are frequently having trouble finding trustworthy and dependable customers for their agricultural products, which has an unpredictable impact on their income. When using e-commerce websites and smartphone applications created for a larger audience, farmers frequently encounter linguistic obstacles that cause misunderstanding and irritation when making purchases or selling their goods. It may be challenging for farmers to use e-commerce websites and mobile applications for buying or selling their crops due to their limited access to cellphones and internet connectivity. Farmers may find it challenging to use the platforms effectively and make purchases or sales on existing e-commerce websites and mobile applications because of their unfriendly interfaces and designs.

IV. METHODOLOGY

1) Clearly define the research questions: The initial stage in every research is to define the research questions. The following research inquiries may be taken into consideration for this study:

- What requirements and preferences do users have for a mobile application and e-commerce website from Agristore?
- What are the best practises for UI/UX design for mobile applications and e-commerce websites currently on the market?
- What essential attributes and capabilities should an Agristore website and mobile app have for farmers?

2) Carry out a literature review: The evaluation of the literature will aid in locating previously published articles and research on the subject. Additionally, it will assist in comprehending the state-of-the-art in UI/UX design for mobile and e-commerce platforms. Academic journals, corporate reports, and online publications could all be important sources of literature.

3) Conduct user research: Understanding the needs and preferences of farmers who will use the Agristore website and mobile application depends on doing user research. To better understand farmers' pain points, preferences, and usage patterns when utilising e-commerce websites and mobile applications, this may involve conducting surveys, interviews, and focus groups with farmers.

4) Conduct a competitive analysis: By doing a competitive analysis, you may better grasp the best practises for UI/UX design for mobile applications and e-commerce websites. This can entail researching rivals' websites and mobile apps to pinpoint their major functionalities, design cues, and features.

V. DESIGN THINKING PROCESS
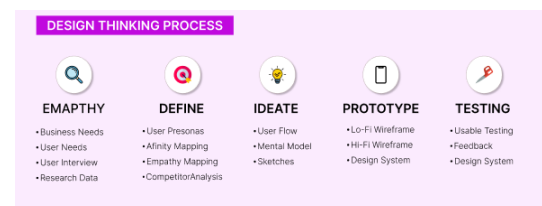
- Empathise: The first stage is to understand the needs and pain areas of the users and to empathise with them. To better understand the user's perspective and needs, user research techniques including interviews, surveys, and observation may be used.
- Define: The research findings are combined at this stage to create a precise and succinct problem statement that directs the design process.
- Ideate: During this phase, designers come up with innovative ideas and investigate potential answers to the problems with the design that have been recognized.
- Prototype: High-fidelity prototypes, such as mock-ups or physical models, may also be created at this stage to test and improve the design concepts. Low-fidelity prototypes, such as sketches or wireframes, may also be created at this stage.

- Test: To get input and improve the design concepts, testing entails assessing the prototypes with users. Usability tests, user interviews, and other techniques for getting input may be used at this step to polish the design and pinpoint any flaws.

VI. USER PERSONA

User personas are made-up people who embody the traits, wants, and behaviours of the target audience. Some potential user personas for the Agristore UI/UX design project are:

- Small-scale farmer: Dhanush lives in a rural location and works as one. He raises produce to sell at neighbourhood markets. Due to the lack of physical stores in her neighbourhood and Dhanush's limited access to transportation, she has trouble getting the essential agricultural supplies and products.
- Farmer on a vast scale: Bhuvan owns a farm and cultivates crops including wheat, maize, and soybeans. He finds it time-consuming and expensive to travel to the city to buy the enormous quantities of supplies and goods he requires for his farm.
- Non-tech-savvy farmer: Older farmer Ashwin is unaccustomed to utilising smartphones or the internet. He is a non-technical person. Because there are few physical establishments in his neighbourhood that sell the supplies and inputs he needs for his farm, he must travel a distance to get to them.
- Experienced farmer: Kushal has worked in the agriculture sector for many years and is a seasoned farmer. He loves dependable suppliers who offer high-quality goods at fair costs and has a thorough awareness of the quality and dependability of inputs and outputs.

The Agristore team may use these user personas to better understand the goals, preferences, and pain points of the target users and create a UI/UX that effectively addresses those demands.

VII. COMPETITOR ANALYSIS

Researching and evaluating the advantages and disadvantages of both direct and indirect competitors is the process of competitor analysis. A competitor study can be used for the Agristore user interface and user experience design project to evaluate the current e-commerce websites and mobile applications in the agricultural market and find potential areas for development.

| Features	Delivery	Pickup	In-Store	Safety
Transparency	Yes	Yes	Yes	Yes
KYC(Farmers)	No	No	Yes	No
Location	Yes	No	Yes	Yes
Pay on Delivery	Yes	No	No	No
Order Status	Yes	Yes	Yes	Yes
Buyer Connection	No	No	Yes	No
Order Tracking	Yes	Yes	Yes	Yes

VIII. USER FLOW

The set of actions a user performs on a website or app to accomplish their goal. The steps a user takes are described, together with the displays they view and the decisions they make. User flow is used to enhance UX design and assess current designs for improvement.
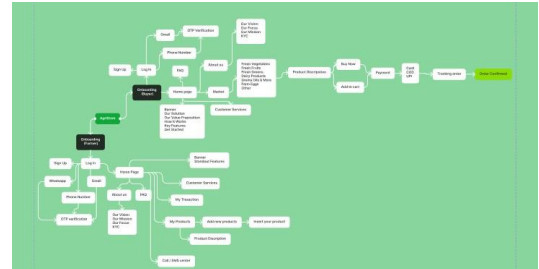
IX. INFORMATION ARCHITECTURE

Information architecture describes how features and content are arranged and organised on the AgriStore e-commerce platform to produce a useful and effective user experience. Users of the IA should have quick access to the data and resources they require to complete tasks including product research, purchasing, and account management. A well-designed IA will take the user's mental model and behaviour patterns into account and employ hierarchy, navigation, and clear and consistent labelling to lead them through the platform. The IA should also be adaptable enough to take into account future development and adjustments in user preferences and needs.
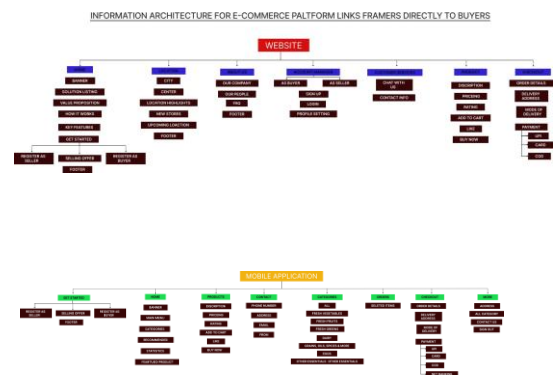

X. FINAL SCREENS OF WEBSITE/MOBILE APPLICATION

A. FARMERS PORTAL

1) Screen for logging in: The AgriStore e-commerce website is made to offer users a safe and easy login process. A few crucial design factors are as follows:

- Clearly labelled fields: Label the login fields using straightforward and basic terms like "Email" and "Password" and register new farmers to sell their goods. where they must register and provide their personal information.
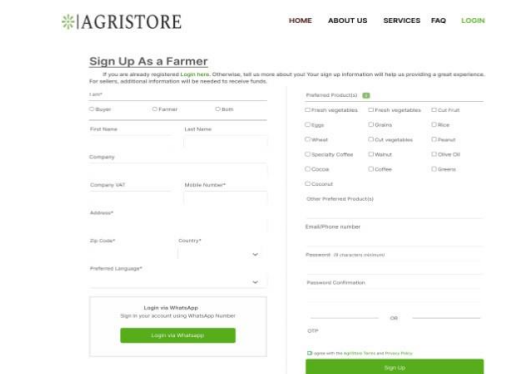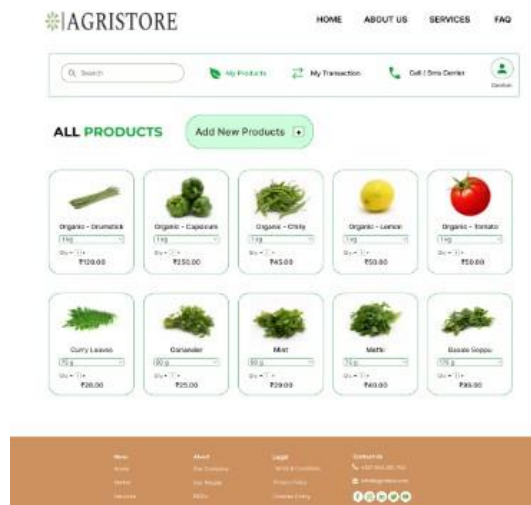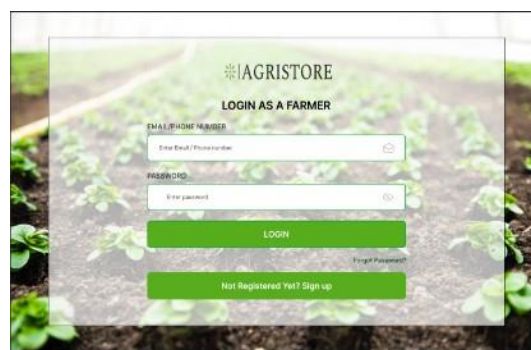
- Visual hierarchy: Emphasise the most crucial parts on the website, such as the login form, using visual signals like font size, colour, and contrast.
- Security: Provide a "Forgot Password" option.
- Mobile responsiveness: Ensure that the login screen is created with mobile users in mind and functions properly across a range of screen sizes and devices.

The login page should generally created to give users a safe and convenient experience, fostering user confidence in the AgriStore platform.

- Home Page: The AgriStore e-commerce website's Home page describes its features, and the home banner screen highlights any recent website updates. This page includes links to the Call/ SMS centre, Transactions, and My Products sections.
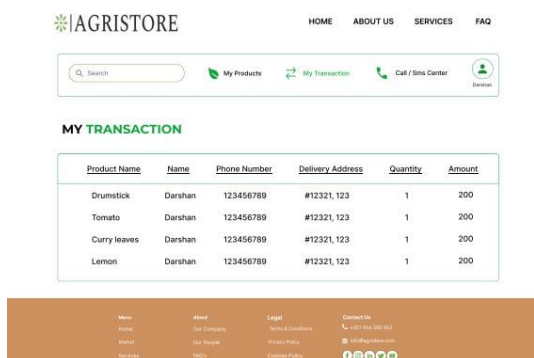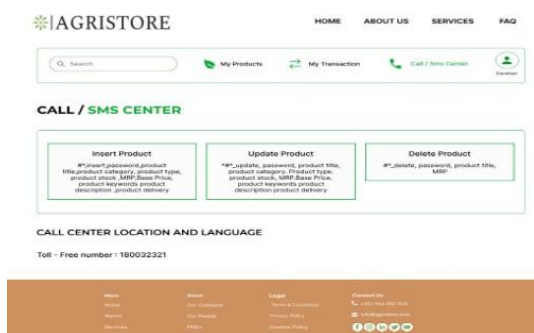
- All Products Screen: Farmers can add new products to the "AgriStore" by providing details about their products on the "All Products" section of the AgriStore e-commerce website, which lists all the products that farmers have uploaded for their customers.
- Transaction Screen: The Transaction page of the Agri-Store e-commerce website provides information on all transactions made by the framer as well as activity, total income, and withdrawal.
- Call/SMS centre: The Call/SMS centre page of the AgriStore e-commerce website provides contact information for users who are unsure how to enter products or questions in the SMS centre. Even we have a toll-free number for users to call if they ever get stuck in the application.

B. BUYERS PORTAL
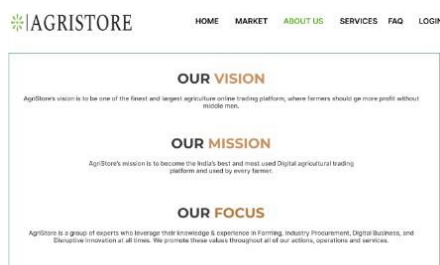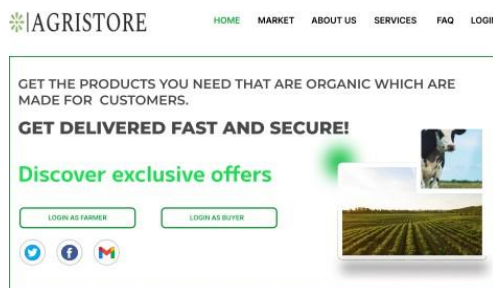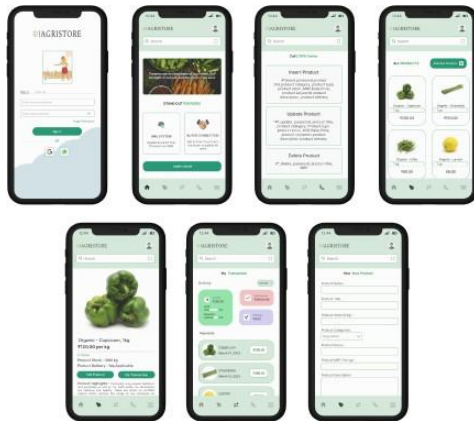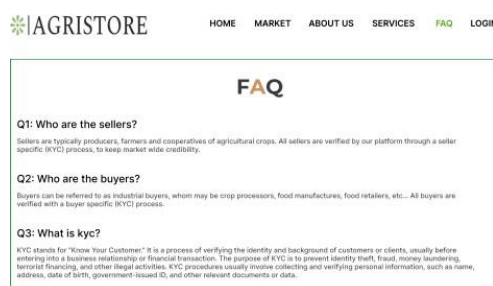
- Home Page: The AgriStore e-commerce website's home page provides information about its features, while the home banner screen provides information about the company, its solutions, and more. Key features are also featured, and there are two alternatives for logging in or registering, depending on whether you're a buyer or a farmer.

- The About Us/FAQ screen: In the AgriStore e-commerce website provides information on the company's vision, objective, areas of focus, and even provides information on KYC (know your customers). Numerous questions are answered on the FAQ page, and customers can also post their own and the AgriStore staff will respond.

- Market Place Screens: The Market Place screen on the AgriStore e-commerce website is the most crucial one because all customers require it in order to place an order. These pages offer farm-fresh, organic cuisine. In addition to farm eggs, dairy goods, and other necessities like oats, certain snacks, etc., we also have fresh veggies, fresh fruits, fresh greens, grains, oils, and more. You name it, we have it. only fresh and organic. Every product that can be purchased is described along with ratings and reviews.


- Add to cart Screens: Place in cart Screenshots of the AgriStore online store The items you have added to your cart are displayed along with an order summary, the MRP of each item, and the total cost the customer will be responsible for.

- Payment Screens: The payment page on the e-commerce website for AgriStore contains all the personal data, including name, delivery address, phone number, and email. Card, COD, and UPI (digital payment) are the three options we accept for payment. You will receive the product in the allotted time once the payment has been made and the information has been completed.

- Track Screens: The AgriStore e-commerce website's Track page, which includes the order ID and delivery time, allows customers to check whether the product
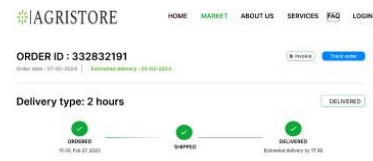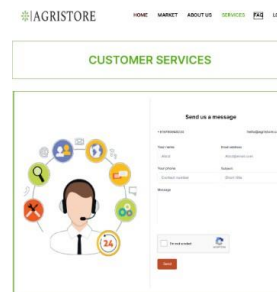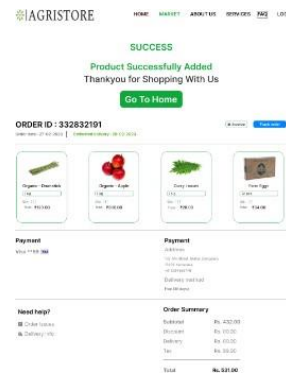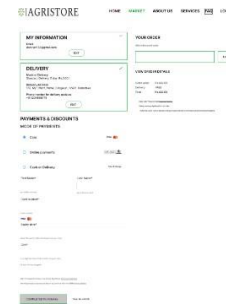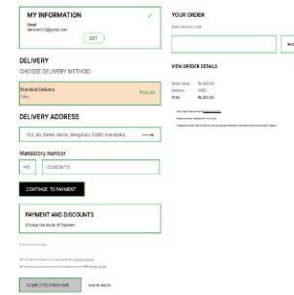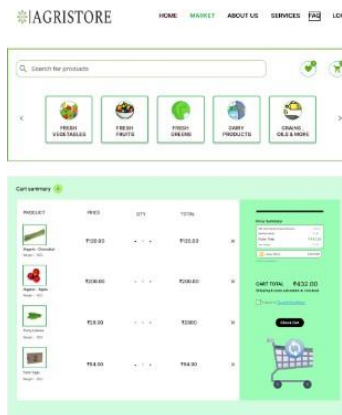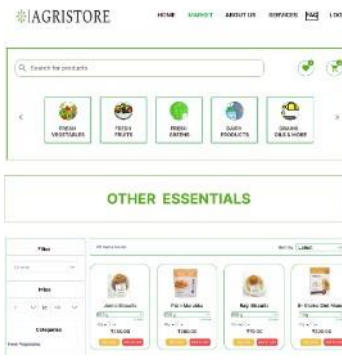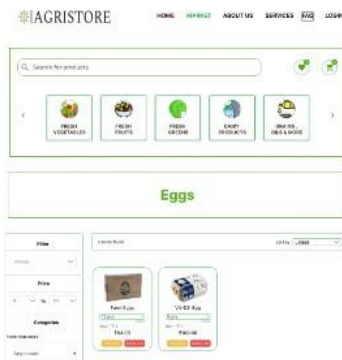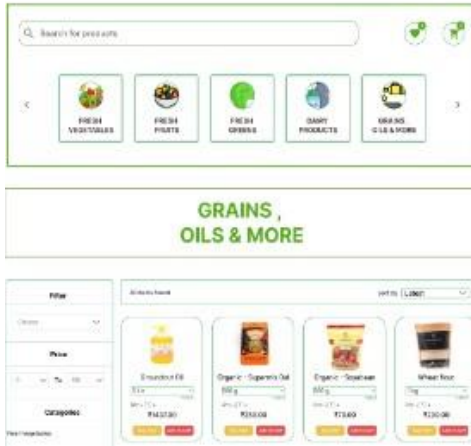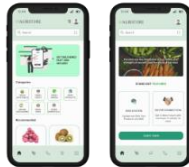
has been dispatched and provides precise information. Customers can check their track screen at any time.
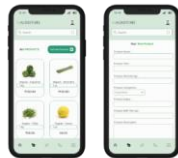
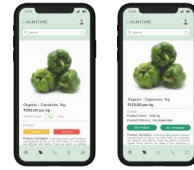WELCOME SCREEN
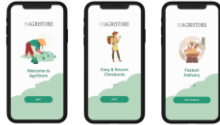
HOME SCREEN

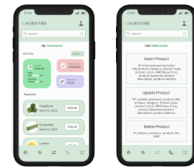SIGN IN/ SIGN UP SCREEN

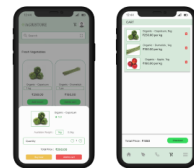ALL PRODUCTS / ADDING NEW PRODUCT (FARMERS)

PRODUCT DESCRIPTION
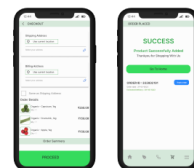

TRANSACTION & CALL / SMS CENTER
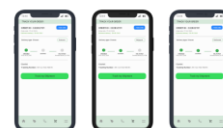

ADD TO CART

MARKET PLACE

CHECKOUT

TRACK ORDER

XI. CONCLUSION

First and foremost, an e-commerce platform that serves farmers needs to have a user-friendly and straightforward interface. Farmers might not be computer knowledgeable, thus the website and app should have a simple design with a short learning curve. The design should also have obvious calls to action and a search bar to make it easier for farmers to find products. Second, for an e-commerce platform like Agri-store, customised recommendations are essential. Features that analyse prior purchases and preferences of customers should be incorporated into the design in order to offer pertinent product recommendations. Customers' trust and loyalty can be strengthened through personalization, which may result in more sales and repeat business. Thirdly, any e-commerce platform must provide live chat assistance. While using the website or application, farmers may have questions or concerns that a live chat function might assist quickly answer. The support staff can help with questions about shipping, payment problems, or product recommendations. Finally, any e-commerce platform must include a user-friendly payment

gateway. The design should provide a simple, seamless payment experience with secure payment choices. A user-friendly payment gateway can lower the possibility of cart abandonment and guarantee a quick checkout. To provide farmers with a seamless and effective user experience, the UI/UX design of Agristore's e-commerce platform should prioritise usability, personalised suggestions, live chat support, and a user-friendly payment mechanism.

REFERENCES

[1] "Design Guidelines for Developing e-Commerce Websites for Farmers," by Ogunleye, Olabisi and Adigun, R. O., in International Journal of Computer Science and Information Security (IJCSIS).

[2] "The impact of User Experience (UX) design on customer loyalty in e-commerce," by Rauschnabel, Philipp A., et al., in Journal of Retailing and Consumer Services.

[3] "Agricultural E-commerce in Developing Countries: An Approach to E-business Framework Design for Farmers," by Abdullahi, Adamu H., et al., in the Journal of Development and Agricultural Economics.

[4] "Designing Usable E-commerce Websites: A Comparative Study of Two Mobile Commerce Websites," by Muntean, Cristina Hava and Muntean, Gabriel-Miro, in Proceedings of the 12th International Conference on Human-Computer Interaction with Mobile Devices and Services.

[5] "Designing Mobile E-commerce User Experience: The Effect of Mobile-Specific Design Principles," by Turel, Ozgur and Yuan, Yufei, in the Journal of Electronic Commerce Research.

[6] "An Evaluation of User Interface Design for Mobile E-commerce Applications," by Lam, Janet Y. L., in the Journal of Internet Banking and Commerce.

[7] "User Experience Design for Mobile E-commerce: A Case Study," by Helkkula, Anu, et al., in the Journal of Service Research.

[8] "Factors Influencing the Adoption of Mobile Commerce Among Farmers in Developing Countries: A Review," by Ahmed, Salah Uddin, et al., in the Journal of Agricultural Extension and Rural Development.

[9] "Designing E-commerce Mobile Applications for Smallholder Farmers in Tanzania," by Nyambuya, Godfrey G., et al., in the Proceedings of the 15th International Conference on Social Implications of Computers in Developing Countries.

[10] "Designing Effective User Interfaces for Agricultural E-commerce Websites: A Review," by Adebiyi, Ayodele and Obembe, Adenike, in the International Journal of Scientific Research in Information Systems and Engineering.

[11] https://agrimp.com/

[12] https://www.academia.edu/39882227/EAgriculture