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Innovative Service Design of Online Agricultural Product Platforms: Improving User Experience and Trust

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Abstract: The rapid growth of online agricultural product platforms has revolutionized traditional agricultural markets, offering consumers more convenient purchasing options and expanding sales channels for farmers. However, challenges such as the lack of product transparency, inadequate trust mechanisms, and varied user needs hinder the platforms' development. This study explores innovative service design strategies to enhance user experience and build trust in online agricultural product platforms, guided by the Double Diamond Model. By identifying critical obstacles and addressing them through digitalization, AI-driven analytics, and ethical farming practices, this research proposes a user-centered service innovation framework. The study emphasizes intelligent interface design, product traceability mechanisms, and interactive consumer feedback systems to foster trust and engagement. Through iterative prototyping, testing, and optimization, this approach aims to create a sustainable and reliable platform ecosystem that meets diverse user needs. The findings provide actionable insights for online agricultural product platforms to improve competitiveness, user satisfaction, and long-term market sustainability.

Keywords: Service design, Online agricultural product platform, User experience, Double diamond model.

1. Introduction

With the rapid development of Internet technology, the online agricultural product market has gradually become an important area for the transformation and upgrading of the agricultural industry. Compared with traditional offline trading methods, the online agricultural product market provides consumers with a more convenient and efficient way to purchase, and also opens up a broader sales channel for farmers and small agricultural enterprises. However, due to the particularity of agricultural products themselves, such as the invisibility of product quality, the uncertainty of logistics and transportation, and the information asymmetry between market participants, user experience and trust have become key factors affecting the development of the online agricultural product market. How to improve the overall experience of users in this market through scientific methods and enhance the trust between consumers and platforms and sellers is an important issue that needs to be solved urgently.

As a mature design thinking framework, the double diamond model can provide a systematic path from problem discovery to problem solving, and has broad application potential in the field of service design. Therefore, it is of great theoretical and practical significance to introduce the double diamond model into the service design of the online agricultural product market and explore strategies to enhance market competitiveness by optimizing user experience and establishing trust relationships.

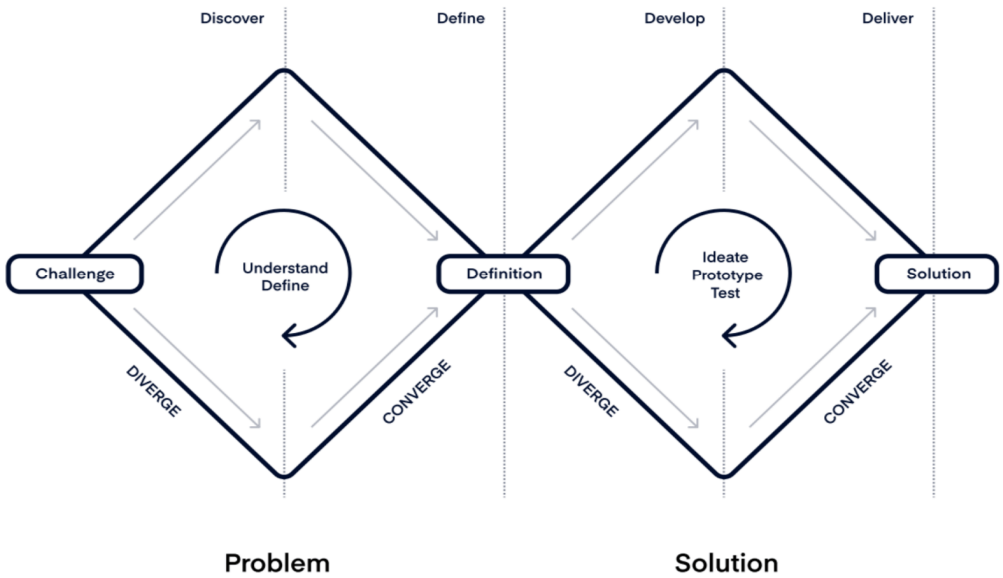


Figure 1. Double Diamond Model

2. Service Innovation of Double Diamond Model

2.1. Discover stage

In the current online agricultural product market, consumers face many pain points in the purchase process, especially the lack of transparency and trust. This is mainly reflected in the lack of detailed product information, the difficulty in ensuring quality, and the lack of security in the transaction process, which leads to low consumer trust in the platform and merchants. In addition, different consumer groups have diverse needs when using e-commerce platforms. For example, some consumers pay more attention to the freshness and traceability information of the product, while others pay more attention to logistics speed and after-sales service.

Diversified needs put higher requirements on the service design of the platform. However, the service system of many e-commerce platforms is still imperfect, with problems such as incomplete information display, lack of user feedback mechanism, and insufficient personalized service. These problems seriously restrict the platform's ability to respond to user needs and affect the overall user experience and platform competitiveness. Therefore, it is particularly important to conduct in-depth research and problem diagnosis on the current situation to provide a scientific basis for improving service quality and user satisfaction.

2.2. Define stage

In the development of online agricultural product platforms, the lack of user experience and trust mechanism is the core problem that restricts its further growth. In terms of user experience, consumers generally face key obstacles such as difficult to guarantee product quality, opaque logistics information, and slow service response speed. These problems directly affect the convenience and satisfaction of the purchase process. At the same time, the lack of trust mechanism is also a major challenge. Specifically, the platform cannot effectively guarantee the fairness and security of transactions, and consumers have doubts about the authenticity and product quality of merchants, which seriously weakens users' confidence in the platform. In response to these problems, the platform needs to clarify the key points to be solved first, and reasonably sort the priority of problems through in-depth analysis of user feedback and market demand. For example, first focus on solving the core obstacles that affect user experience, such as information transparency and service process optimization, and then gradually improve the trust mechanism of the platform, such as introducing intelligent traceability technology, third-party certification system and user evaluation system, to improve user experience and trust in a systematic way, thereby enhancing market competitiveness.

In response to these problems, each online platform needs to clarify the key points to be solved first, and reasonably sort the priority of problems through in-depth analysis of user feedback and market demand. For example, first focus on solving the core obstacles that affect user experience, such as information transparency and service process optimization, and then gradually improve the platform's trust mechanism, such as introducing intelligent traceability technology, third-party certification system and user evaluation system, to improve user experience and trust in a systematic way, thereby enhancing market competitiveness.

2.3. Develop stage

In order to improve the user experience and trust of online agricultural product platforms, innovative service design strategies need to focus on intelligent technology and process optimization. First, through intelligent interface design and optimization of user purchase processes, a more convenient and efficient operation experience can be provided, such as personalized recommendations, intuitive navigation interface and simplified payment steps. Secondly, a complete product traceability system and information transparency mechanism should be built to intuitively present core information such as the origin, quality inspection and transportation status of the product to users, thereby enhancing consumers' trust in the product.

In terms of user trust enhancement methods, it is crucial to optimize the consumer evaluation system and social interaction functions. By establishing a real and reliable user evaluation system, consumers can refer to other users' purchase experiences, while encouraging users to share shopping experiences and participate in community interactions to build a positive social atmosphere. These strategies complement each other, not only enhancing users' purchasing confidence and loyalty, but also laying the foundation for the platform to create a trustworthy brand image.

2.4. Delivery stage

In the delivery phase, service prototype design and testing are important links in transforming innovative service concepts into actual results. In this phase, it is necessary to design specific service prototypes that can reflect intelligent interfaces, information transparency mechanisms, and process optimization based on previous research and analysis. For example, build an e-commerce platform prototype with personalized recommendation functions, integrate key functions such as product traceability display, intelligent search, and simplified payment processes, and design a user-friendly interface and interactive experience. On this basis, verify the functionality and practicality of the prototype through user testing, invite target users to try the platform and provide feedback, analyze their operating habits, satisfaction, and major pain points during use, and provide first-hand data support for subsequent service optimization.

Based on the feedback collected in the testing phase, formulate a service improvement and optimization plan to further improve the effectiveness of the design and user satisfaction. Specifically, functional adjustments can be made to problems in the user experience, such as enhancing the display depth and credibility of product traceability information, and intuitively presenting key content such as production date, transportation trajectory, and quality certification for consumers to quickly obtain. In addition, in terms of trust mechanism, the user evaluation system should be improved, such as introducing a more fair evaluation algorithm and strengthening the authenticity review of evaluations to ensure that the evaluation content has reference value for consumers. The optimized service needs to be tested again on a small scale, and the overall performance of the service should be improved through iteration, so as to finally deliver a complete solution that meets user needs and

strengthens the competitiveness of the platform.

3. Conclusion

As a systematic design thinking tool, the Double Diamond Model provides a clear path and guidance for innovation in agricultural e-commerce services. Through the four stages of "Discovery-Define-Develop-Delivery", the Double Diamond Model emphasizes the whole process of thinking from problem exploration to solution implementation, injecting a new perspective into the future development of agricultural e-commerce. From the following picture, we can see that digitalization plays a core role in the innovation of agricultural e-commerce services, which mainly involves innovation, research, supply chain connectivity, data analysis and artificial intelligence (AI), ethics and sustainable agriculture, and the pursuit of long-term positive impact. Combined with the Double Diamond Model, these contents provide systematic inspiration for the future development of agricultural e-commerce.



Figure 2. Smart Agricultural Service Ecosystem

In the "Discover" stage, agricultural e-commerce needs to identify industry pain points, such as supply chain complexity, product traceability, and data opacity, through research and user demand surveys. Through in-depth analysis, the potential of digital technologies (such as AI and data analysis) in solving these pain points can be discovered, laying the foundation for service innovation. In the "Define" stage, the platform needs to clarify key directions, such as improving supply chain connectivity and transparency, and promoting the development of sustainable agriculture, while taking into account consumers' needs for quality and trust.

Entering the "Develop" stage, agricultural e-commerce can design digital solutions through technological innovation, such as AI-based accurate demand forecasting, intelligent traceability systems, and ethical agricultural certification platforms. These solutions can help consumers intuitively understand the source and quality of products. At the same time, the platform should build an efficient supply chain connection model around data sharing and collaboration to improve overall operational efficiency. In the "delivery" stage, the service design should be improved through prototype testing and user feedback, the innovative results should be implemented, and the iteration of the service model should be promoted with sustainable development as the core.

In short, the future development of agricultural e-commerce should be based on digital-driven service innovation, with technology as the starting point, deeply linking all links of the supply chain, strengthening the concept of sustainable and ethical production, and ultimately realizing a high-quality, transparent, and user-trusted e-commerce ecosystem.

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