

Analysis of the Impact of User Experience-based Instant Feedback Systems on Trust Building

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Abstract: With the continuous expansion of digital interaction scenarios and the growing popularity of online services, instant feedback systems have become the core carrier for optimizing user experience and building user trust. Based on the five elements theory of user experience and the core mechanism of trust building, this article integrates empirical data and practical cases from multiple fields including education, e-commerce and healthcare, and systematically analyzes the mechanism of instant feedback systems influencing user experience from the core dimensions of response timeliness, information quality and interaction form, as well as the internal logic and transmission path of such systems' impact on trust building. This study finds that high-quality instant feedback systems can improve user trust by more than 40%, and the integrity of feedback loops and information transparency are the key factors affecting this effect. The conclusions of this study provide practical solutions for digital products to optimize user experience and maintain long-term user trust through instant feedback systems, and also offer solid empirical support for cross-scenario trust building research in related fields.

Keywords: Instant Feedback Systems, User Experience, Trust Building, Interaction Design, Empirical Analysis.

1. Introduction

The booming development of the digital economy is driving increasingly diverse and deeply integrated interactive scenarios such as online consumption, remote collaboration, and online learning. Trust, as the core link that maintains the long-term binding between users and products, is the core variable that determines the length of the digital product lifecycle, and its construction difficulty and importance are synchronously increasing. In the increasingly competitive market environment of digital services, users' perception and trust expectations for digital products are constantly increasing. As a key touchpoint connecting user behavior and product response, the instant feedback system can capture user operation intentions in real time, transmit core information, and directly influence users' value judgments and emotional tendencies towards products. According to the "2024 China Digital Product User Experience White Paper" by iResearch Inc, 83% of users will give up using a digital product due to delayed feedback, and effective instant feedback can increase product retention by 2.7 times. This data fully confirms the key role of instant feedback systems in user retention and trust building [1]. By reviewing existing academic research results, it is found that the academic discussion on the relationship between feedback systems and trust mostly focuses on local verification in a single field of e-commerce or education, lacking a systematic sorting of the common mechanisms and differentiated characteristics of feedback systems in trust building under different service scenarios. The universality and practical guidance of relevant research conclusions need to be further improved. Based on this significant research gap, this study focuses on the core perspective of user experience, systematically integrates real cases and authoritative empirical data from multiple fields, deeply analyzes the internal mechanisms of the impact of instant feedback systems on trust building, accurately extracts common rules and optimization points in different scenarios, to provide more targeted and practical optimization solutions for digital product design and operation work, and help

enterprises achieve user retention and value growth through trust empowerment in fierce market competition.

2. Related Concepts and Theoretical Foundations

The instant feedback system relies on technologies such as big data collection and real-time data processing to capture user operation behavior and demand signals, transmit response information to users in a precise, concrete, concise and comprehensible form, and form a complete closed-loop interactive system of "feedback submission - problem handling - solution optimization - result feedback". Its core attributes include response immediacy, information targeting, and interaction continuity. Among them, responsiveness emphasizes millisecond-to-minute response efficiency to user behavior, targeted information delivery focuses on the precise matching of feedback content with users' specific needs, and interaction continuity ensures no discontinuity in the entire feedback process. Such systems are currently widely applied across various digital interaction scenarios, including e-commerce evaluation interaction, online education and learning, medical service appointment, and government service processing.

The core theoretical support for user experience research is the Five Elements Model proposed by Jesse James Garrett. This model constructs a complete user experience analysis framework from five progressive dimensions: the strategic layer (clarifying users' core needs), the scope layer (defining functions and content), the structural layer (designing interaction logic), the framework layer (planning interface layout), and the presentation layer (presenting visual and sensory effects) [2], and it also clarifies that user experience optimization needs to achieve full-process implementation from abstract needs to specific presentation.

The theory of trust building points out that the formation of user trust is not achieved overnight, but a gradual process involving cognitive recognition, emotional resonance, and behavioral verification. In digital scenarios, users have no

direct interaction with product providers, and information transparency and response reliability thus become key prerequisites for reducing users' perceived risks and promoting trust formation [3].

Existing empirical studies have confirmed that instant feedback systems can significantly shorten the trust building cycle and improve trust stability by acting upon the framework and presentation layers of user experience. For example, the Research Report on User Experience and Trust Relationship in Online Education released by the U.S. Department of Education in 2023 shows that adopting a teaching model with an embedded instant feedback mechanism in educational scenarios can raise students' trust in the teaching system by 35%.

3. The Core Dimensions of the Impact of Instant Feedback Systems on User Experience

The instant feedback system focuses on three core dimensions to accurately shape a high-quality user experience in all aspects. These three dimensions are interrelated and work together to form the core criterion for evaluating the interaction experience quality of digital products, laying a solid foundation for building trust relationships between users and products. Firstly, there is the dimension of response timeliness. Users' perception of feedback timeliness is directly related to the core direction of experience evaluation. This perception is essentially a preliminary judgment of product service attitude and operational ability. Timely response can effectively alleviate users' waiting anxiety and enhance their sense of being valued. According to the "Digital Product Interaction Experience Evaluation Report" by the China Academy of Information and Communications Technology, when the feedback response time is shortened from 48 hours to 90 minutes, user satisfaction can be increased by 62% [4]; The optimization practice of a campus food delivery mini-program at a certain university in Nanjing has also confirmed this conclusion. By building an intelligent feedback processing system, the response time for user complaints has been shortened from 48 hours to 90 minutes, and the daily effective feedback volume has significantly increased from 37 to 412 [5]. Secondly, there is the dimension of information quality. The accuracy, practicality, and pertinence of feedback information directly determine the depth of user experience. Vague and general feedback not only fails to solve user problems, but also causes cognitive confusion, exacerbates user frustration, and even weakens users' trust perception in the professional ability of the product. A case study of optimizing a state-owned bank's app showed that previously, the feedback on password settings only prompted vague expressions such as "format error", resulting in a user abandonment rate of 40%. After optimization, the precise feedback form of "specific examples + step-by-step modification guidelines" was adopted, and the abandonment rate quickly dropped to below 15%. Finally, in terms of interaction mode, personalized and humanized interaction design can accurately meet the emotional needs of users and effectively enhance the experience favorability. The Instagram registration page adopts an interactive strategy of "positive feedback + emotional guidance", and uses concrete and empathetic language such as "✓ This username looks good" to increase the registration completion rate by 28%; On the contrary, rigid and mechanical negative feedback can

easily trigger user resistance, disrupt overall experience perception, and even directly block subsequent interaction processes.

4. Trust Building Mechanisms Mediated by User Experience

Under the mediation of user experience, the instant feedback system gradually cultivates and deepens user trust through three core paths: cognitive calibration, emotional resonance, and behavioral reinforcement. These three paths do not exist in isolation, but rather gradually and mutually support each other, forming a complete trust cultivation chain from shallow cognitive recognition to deep emotional trust. In the cognitive calibration path, real-time feedback can clearly convey the system's operating rules and feedback status, helping users establish accurate product mental models and reduce cognitive biases and usage doubts caused by information asymmetry. This clear information transmission can eliminate the information gap between users and the system, reduce the threshold and decision-making cost for users. According to the "Research on Building User Trust in AI Systems" released by Restack Research Institute in 2024, users who receive immediate feedback on the results during the use of AI systems have a 53% increase in cognitive accuracy and a 41% synchronous increase in trust; However, users who only receive explanatory information without receiving feedback on the results have a trust improvement of less than 10% [6]. The core logic of the emotional resonance path lies in the fact that empathetic feedback design can break through the cold barriers of human-computer interaction and bring users closer to the product psychologically. For example, replacing mechanical expressions such as "feedback received" with "we are urgently handling the issues you raised" can make users truly feel respected and valued. The US Department of Education's "Research on the Framework for Building Interactive Trust in Educational Scenarios" points out that feedback forms with empathy can increase the speed of building trust relationships between teachers and students by 40%, and this mechanism is also applicable in commercial digitalization scenarios. The path of behavioral reinforcement relies on the complete implementation of feedback loops. The practice of a campus food delivery platform at a university in Chengdu is of great reference value. It has established a full-process closed-loop system of "feedback submission - problem handling - improvement disclosure", relying on blockchain evidence storage technology to achieve process traceability management. Based on this traceable operating mechanism, users can intuitively track the entire process of advancing and implementing their own demands, ultimately promoting a 49% increase in platform trust and a 31% increase in the proactive revocation rate of negative reviews, thus establishing a virtuous cycle mechanism of "feedback recognition - trust strengthening - continuous use" [7].

5. Multi-domain Empirical Analysis: Trust Building Effect of Instant Feedback Systems

Multi-domain empirical cases intuitively demonstrate the significant driving effect of instant feedback systems on trust building from a practical perspective [8]. These cases cover two major categories—public services and commercial

services—and encompass different user groups and resource supply levels, and are both typical and representative. The effectiveness of this role will show differentiation characteristics depending on the differences in scenario attributes. In the educational context, Application of Instant Feedback in Algebra Teaching published in the academic journal *Scimatic* in 2025 indicates that relying on Quizizz™, the experimental group, which provided personalized feedback such as real-time analysis of incorrect questions and real-time reminders of answer progress, saw a 32% improvement in student performance and a 45% higher level of trust in the teaching system compared to the control group using traditional teaching methods. This data clearly confirms the core value of the feedback system in building trust in educational settings. In the medical field, a study on rural healthcare scenarios in Tanzania published in *BMC Public Health* showed that the Patient Feedback System (PFS) built to address the pain points of scattered medical resources and asymmetric doctor-patient information in the local area can enable patients to check their diagnosis and treatment progress in real time and provide feedback on their medical needs. After the system was implemented, it effectively reduced doctor-patient conflicts and increased patients' trust in medical institutions by 38%. However, the study also emphasizes that the implementation effect of the system needs to be based on ensuring system accessibility and feedback responsiveness for users in remote areas as an important prerequisite. In the field of e-commerce, the "Campus Local Life Service Platform Operation Report" released by Zero Point Campus shows that a delivery mini-program at a university in Chongqing has introduced gamified instant feedback mechanisms such as point rewards and optimization suggestion adoption announcements, guiding users to deeply participate in product improvement processes such as delivery process optimization and dish quality improvement. Ultimately, the functional adoption rate has increased to 83%, the user retention period has been extended by 2.7 times, and the user stickiness driven by trust has significantly increased. These cross-disciplinary empirical data indicate that regardless of the differences in application scenarios, the core logic of building trust through optimizing user experience in instant feedback systems is universal, and the integrity of feedback loops and the adaptability of feedback forms to scenarios are the dual key prerequisites for ensuring effectiveness [9].

6. Optimization Paths of Instant Feedback Systems Based on Trust Construction

Based on the core demands of user experience and the underlying logic of trust building, the instant feedback system should be based on a dual-dimensional perspective of user perception and practical implementation, and promote refined optimization from three major dimensions [10]. All optimization strategies are anchored to the pain points of user experience and the core demands of trust building, aiming to achieve a two-way match between the effectiveness of technology implementation and the perceived value of users. Firstly, establish a hierarchical response mechanism, according to the urgency and scope of impact of feedback content, establish priority sequences, and develop differentiated response plans for three types of feedback: complaints, suggestions, and consultations. For example,

adopt the golden response cycle of "24-hour initial screening response - 48-hour solution output - 72-hour improvement result disclosure". During the initial screening stage, automatic acknowledgments are sent synchronously to clearly inform the processing progress, ensuring response efficiency while also considering processing quality. The optimization practice of a campus mini-program in a certain university in Nanjing shows that after the implementation of this strategy, the recurrence rate of similar complaints has decreased by 75%, and the satisfaction of users with feedback processing has synchronously increased. Secondly, strengthen the transparency of feedback information presentation, introduce visual tools to intuitively display the nodes and responsible persons in the entire feedback processing process, such as building a "user suggestion wall" to publicize the adoption status, generating an "improvement heat map" to present high-frequency optimization directions, and reducing the cognitive cost of users on feedback progress. The optimization case of a leading life service platform shows that by regularly publishing weekly optimization lists on the platform homepage and user personal center, and publicizing user feedback processing results, user trust perception has been improved by 37% [11]. Thirdly, promote user co-creation feedback design, draw on the core ideas of the "Campus Product Manager" cultivation program, enrich the diversity of incentive methods, and guide users to deeply participate in the feedback optimization process through methods such as point rewards, reward redemption, inclusion of excellent suggestions in the product iteration roadmap, and awarding the "co-builder" honorary badges, transforming users from passive feedback providers to active product co-builders. The practice of a campus service platform in Wuhan has verified the effectiveness of this approach, which has promoted a 40% increase in user recognition of delivery route optimization solutions through this model, further consolidating the trust relationship between users and the platform.

7. Conclusion

This article clarifies the core impact paths and internal mechanism of user experience-based instant feedback systems in trust building through theoretical analysis, integration, and empirical testing in multiple fields. Research has shown that instant feedback systems can optimize user experience perception from three dimensions: response time optimization, information quality improvement, and innovative interaction methods, and then promote trust building through the three transmission paths of cognitive calibration, emotional resonance, and behavioral reinforcement. High-quality instant feedback systems can increase user trust by more than 40%. From the practical performance analysis of diverse scenarios such as education, healthcare, and e-commerce, the optimized design of such systems can not only quickly establish initial user trust, but also maintain long-term trust connections through continuous experience iteration. Multi-domain practical cases further verify that feedback loop integrity, information transparency, and user engagement are the three core driving factors for enhancing the effectiveness of trust building; the three factors need to form a synergistic linkage effect to maximize the release of system value. The optimization paths proposed in this article, including hierarchical response system, transparent information presentation, and co-creation design, combine theoretical guidance value with practical adaptability.

They can be flexibly adjusted according to the business characteristics of different industries, providing differentiated practical guidance for digital product operators of different scales. This study has certain limitations as it has not yet conducted in-depth exploration on the perceived differences among user groups with different age brackets, usage habits, and consumption levels, nor has it thoroughly analyzed the mechanism by which regional factors affect the trust building effect of feedback systems. In the future, more targeted research on trust building mechanisms can be conducted around two directions: user segmentation and regional scenario adaptation; at the same time, quantitative analysis models can be introduced to further verify the weight proportion of each influencing factor. Overall, as a key link between user experience and trust building, the optimized design of instant feedback systems has important practical guidance significance for maintaining long-term user relationships and enhancing product core competitiveness.

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