

How AI Enhancements to SE Platforms Affecting User Experience to Benefit Conversion

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Abstract: This paper studies the impact of artificial intelligence (AI) on improving consumers' participation in the sharing economy. With the rise of environmental awareness and the proliferation of digital platforms, artificial intelligence has become vital for improving trust and asset matching. However, enterprises should avoid possible risks when applying AI. This paper assumes that SE platformed enterprises will eventually adopt AI tools and strategies to optimize efficiency and improve user experiences. This paper mainly studies from two aspects. First, it discusses how enterprises use artificial intelligence to improve platform functions to improve customer experience. Second, this paper proposes an implementation framework for SE enterprises using the SLO analysis framework to protect the valuable SLO of SE enterprises. This article focuses on technical, legal, ethical, and consumer perspectives in the SLO analysis process. This paper concludes that artificial intelligence is a sustainable and cost-effective strategy for the sharing economy that helps achieve environmental and economic goals. The research results of SE platforms leverage the perception of being a positive, pro-environmental, pro-community building modality, preventing losing its social license to operate, emphasizing the potential of artificial intelligence to improve customer satisfaction and participation through personalized services and responsive customer support.

Keywords: Sharing Economy(SE), Customer Satisfaction, Digital Platforms, Consumer Engagement, SLO (Social License to Operate).

1. Introduction

With the deterioration of the global environment, the world and various countries have introduced corresponding environmental protection policies, and people's awareness of environmental protection has increased. The sharing economy refers to institutions or individuals with idle resources transferring the right to use goods to others for payment through a third-party platform. Owners obtain value by sharing idle resources, while demanders obtain goods at a lower price, thereby improving the utilization of goods. Low pollution and low cost are the main reasons for the vigorous development of the sharing economy [1]. However, the complex global economic environment makes many enterprises face the challenge of survival and development. Due to the fierce competition and the increase of alternatives, many sharing economy platforms face declining consumer participation.

The research in this paper helps consumers understand the working principle of AI algorithms, increase their trust in SE enterprises, and ultimately participate in the sharing economy. At the same time, this study helps SE enterprises avoid the risks of using AI to SLO and achieve environmental and economic goals [2]. However, there is a lack of research on dealing with the risk of SLO when SE platforms use AI. Through the SLO analysis framework, we analyze from four aspects: technology, law, industry ethics and consumer concern. We conclude that SE platforms, unlike other e-commerce platforms, leverage this perception of being a positive, pro-environmental, pro-community building modality. Losing that perception risks losing its social license to operate [3]. This paper's unique argument is that SLO is a critical, fundamental risk for SE enterprises. The structure of this article is as follows: First, a brief introduction to this article, followed by a literature review on AI creating net positives to enhance engagement. Second, we use the SLO analytical framework to analyze the AI risks that need to be avoided. Then, we frame AI to enhance SLO according to risks. The third and fourth parts are discussion and conclusion.

2. Literature review

2.1. The current research on the application of AI in business

At present, AI applications in business are concentrated on Personalized marketing. In a study exploring the influence of artificial intelligence technology on consumer purchasing intention, Nazir et al. believed that the AI algorithm is responsible for data collection and analysis, which can help better understand user preference/prediction behaviour, thus promoting customer participation.

2.2. Research on the method of AI promoting consumer participation

This paper aims to discover how AI can improve consumer participation by studying the factors affecting consumer participation platforms and transformation. In the study of the Impact of Consumer Environmental Consciousness on Consumer Perceived Value from the Sharing Economy, Gadeikiene et al. believed that consumer environmental awareness has a significant direct impact on the attitude toward the sharing economy platform and directly affects the social value perceived by consumers [4]. In the relationship between consumer participation behaviours and consumer stickiness study, Ren, Jifan et al. believed that positive consumer participation behaviour (stickiness) has a positive impact on consumer perceived value, thereby promoting consumption; Bai, Shizhen et al.'s research in Consumer Engagement on Social Networking Sites believes that interpersonal factors and self-expression brand influence will affect consumer participation; Kim, Naeun Lauren et al. proposed five fundamental dimensions of collaborative consumption of consumer goods in the study of Exploring collaborative consumption motives for goods consumers: focus on sustainability, sociability, diversity, fun and cost savings.

2.3. The dimensions of AI

AI can help the retail industry optimize real-time customer interactions and integrate end-to-end solution suites. Artificial intelligence applies machine learning, deep learning, and other techniques to solve real problems (summarized on the MathWorks website).

2.4. Neural network

Neural network technology is a type of machine learning inspired by the work of the human brain. It processes information by responding to external input and passing information between each unit. A neural network learns from data to be trained to recognize patterns, classify data, and predict future events.

3. Method

This article uses the SLO analysis framework to analyze the AI risks that must be mitigated. The specific framework is as follows: the limitations of technology, laws and regulations, business ethics, consumer attention, and so on. By analyzing these limitations, several possible measures to leverage the perception of being a positive, pro-environmental, pro-community-building modality to enhance SLO are proposed.

3.1. The AI risks

3.1.1. Technical aspects

3.1.1.1. Data privacy and security

Privacy Protection: AI technologies must strictly protect users' personal privacy during data processing. For example, some sharing economy platforms use users' location data in their recommendation systems. If this data is leaked, it can lead to serious privacy issues. Uber faced significant fines and a trust crisis due to a data breach incident [5].

Data Security: Platforms must adopt advanced encryption technologies and security measures to protect data. In 2018, Airbnb experienced a data breach that led to millions of users' information theft, highlighting the security challenges even large platforms face.

For example, Airbnb could use edge AI to keep user data on their devices, reducing security risks.

3.1.1.2. Rapid technological changes

Continuous AI advancements require platforms and users to adapt quickly, potentially disrupting user engagement.

Example: Uber could introduce new AI features incrementally, with user tutorials.

3.1.2. Laws and regulations

Data Protection Regulations

GDPR Compliance: For instance, Airbnb must comply with the General Data Protection Regulation (GDPR) when operating in Europe, ensuring that user data is collected, processed, and stored by the regulation. This increases operational costs and requires significant legal and technical support [6].

Regulations in Other Regions: Sharing economy platforms operating in different countries and regions must comply with various legal frameworks, such as the California Consumer Privacy Act (CCPA) in the USA and the Cybersecurity Law in China.

3.1.3. Liability issues

AI Decision Errors: If AI algorithms make erroneous decisions that lead to user losses, unclear liability can result in legal disputes. For example, Airbnb faced legal action because its AI recommendation system erroneously rejected certain users' bookings.

Cross-border Data Transfer

Legal Restrictions: For instance, Didi Chuxing must handle different countries' legal restrictions on cross-border data transfers when expanding its global business, requiring complex compliance work and technical measures [7].

3.1.4. Consumer attention

3.1.4.1. Information overload

Excessive Recommendations: AI recommendation systems might provide users with too much information and too many choices, making it difficult for them to make effective decisions. Platforms need to optimize recommendation algorithms to ensure the quality and relevance of recommended information. For example, through personalized recommendation systems, Spotify reduces information overload, enhancing user experience.

3.1.4.2. Privacy concerns

Data Sensitivity: Users may feel uneasy about platforms collecting and using their data, mainly concerning personal privacy and sensitive information. These privacy concerns can reduce user engagement with the platform. Surveys show that over 60% of users are concerned about data collection and privacy issues with smart home devices.

3.1.5. User experience

Learning Curve: Complex AI functionalities require users to spend time and effort learning and adapting, particularly for those unfamiliar with technology. This could decrease user engagement and satisfaction. For example, older users might need more guidance and support when using new technologies.

Example: Platforms can design intuitive interfaces that guide users smoothly through processes.
Methods to enhance SLO.

3.1.6. Business ethics

3.1.6.1. Transparency

Algorithm Transparency: Platforms need to explain how AI algorithms work transparently. For example, Airbnb could explain how its property recommendation algorithm works to enhance user trust in the platform.

Data Usage Transparency: Platforms should inform users how their data is used and for what purposes. For instance, Lyft's privacy policy details how user data is collected, used, and protected, enhancing user trust.

Ethical and Transparency Issues: AI decision-making must be fair and transparent to maintain user trust. Users need clarity on data usage and AI-driven recommendations.

3.1.6.2. Fairness

Non-discrimination: Uber must ensure its AI algorithms treat all drivers fairly in ride allocation, avoiding discrimination based on race or gender.

Fairness Issues: Clearly explain AI algorithms and data usage and implement bias detection to ensure fairness.

Example: Lyft could provide insights into its ride allocation system to ensure non-discriminatory practices.

3.1.6.3. User informed consent

Choice: Users should have the right to know how their data is used and should have the option to opt out of data collection and usage activities. For instance, platforms should provide clear privacy

policies and allow users to easily opt out of data sharing. Facebook provides detailed privacy settings that allow users to manage data-sharing permissions.

4. Discussion

4.1. Previous research trends and gaps

Previous research on the sharing economy has focused on how artificial intelligence can improve business processes and enhance customer interaction. For example, research has pointed out how artificial intelligence technology can improve service efficiency and user satisfaction with platforms like Airbnb and Uber. This field usually focuses on using artificial intelligence to complete tasks such as data analysis, personalized recommendations, and automated operations. However, there needs to be a more in-depth understanding of how artificial intelligence affects customer participation, sharing platforms, and the key factors that affect this participation. The results explain how artificial intelligence affects customer participation in shared platforms and the key factors that affect this participation.

4.2. Current study's contributions

This study focuses on filling the identified gap by investigating the factors that influence customer involvement in sharing platforms and exploring the potential of AI to improve these factors. This research indicates that user-friendliness and perceived value play roles in shaping customer interaction on sharing platforms. These results are consistent with studies on consumer behaviour in digital settings but offer a more detailed understanding specific to the sharing economy landscape [8].

By examining how AI can optimize these factors, our research contributes to the existing knowledge base by highlighting AI's ability to enhance consumer engagement through personalized experiences, improved security measures, and adaptive learning mechanisms. In the work, AI has the potential to significantly increase consumer engagement by addressing privacy worries through encryption techniques and enhancing user experience through intuitive interactions with AI systems

4.3. Unique insights and breakthroughs

This work provides a critical perspective. This paper finds that AI has a positive effect on SE enterprises and has some fundamental risks for SE enterprises AI. Through in-depth research, it is found that artificial intelligence can improve operational efficiency and actively improve customer participation by being consistent with consumer preferences and meeting their needs. Unlike the research that focuses on the operational advantages of artificial intelligence, this work emphasizes the strategic importance of artificial intelligence in attracting consumers. In addition, this work also proposes to implement artificial intelligence practically and economically on a shared platform. These recommendations include using cloud-based artificial intelligence tools and the gradual introduction of artificial intelligence functions conducive to small businesses dealing with limited resources.

4.4. Limitations and future research directions

While this work has made contributions, it is essential to acknowledge its limitations. For example, while this work has identified key factors influencing customer participation, the dynamic and rapidly evolving nature of AI technologies and consumer preferences means that our findings may require frequent updates to remain relevant [9]. Future research could expand on these aspects by exploring how evolving AI technologies influence consumer behaviour and how regulatory frameworks can be adapted to ensure ethical AI use in the sharing economy.

5. Conclusion

This paper studies how artificial intelligence's enhancement effect on a sharing platform can improve customer satisfaction. It mainly analyzes the risks of social recognition that may exist in SE enterprises using AI and draws corresponding solutions.

This paper explains that AI enhancement provides customers with high-quality services and increases customer experience through AI algorithms and functional auxiliary sharing platforms. This paper also analyzes some obstacles to applying AI to the sharing platform. It analyses four aspects: science and technology, laws and regulations, business ethics, and customer participation. This paper studies the Valid use for SE & effect and the benefit and Disadvantage of AI for SE, and concludes.

The research in this paper finds that AI's enhancement of the platform is reflected in providing more prosperous interactive methods, personalized services, and better after-sales services. The increased interaction can make people see more environmental problems and enhance their sense of social responsibility, and more people will participate in the sharing economy for transactions [10]. The provision of personalized services generally impacts consumers' participation in any economic activity. The assistance of AI can help the platform to segment customers more carefully so that each customer can experience customized services; the more perfect the after-sales guarantee is, the more willing people are to participate in economic activities. AI can quickly restore customer messages on the platform. The rapid response and solution positively impact customer experience and can improve customer participation in the sharing platform. In addition, the result shows that people enhance environmental awareness in the process of peer-to-peer transactions, thereby increasing conversion and forming a good cycle. This paper finds that AI enhancement has excellent potential and a wide range of influence, which has a great impetus to improve customer conversion.

In addition, this paper finds that the cost of AI in the platform is controllable, the promotion effect of AI on the shared platform is long-term, and the rapid iteration of AI can increase the competitiveness of the shared platform. The goal of the sharing economy is to recycle idle goods. This concept will always be deeply rooted in the hearts of the people, along with the trend of global environmental governance. Therefore, with the continuous expansion of the sharing economy, the iteration of AI is inevitable and will have good benefits.

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