

DEVELOPMENT OF A MOBILE PLATFORM FOR AUTOMATING DECORATIVE STRAW DELIVERY SERVICES BASED ON ARTIFICIAL INTELLIGENCE TECHNOLOGIES

Yaxshimuradova Jansulu

Nukus State Technical University,

1-year Master's Student.

jansuliwyaxshimuradova.145@gmail.com No: +998919362812

Tleuov Kumatbay Orazbayevich,

Acting Associate Professor at the Department of Computer Engineering, PhD (Physics and Mathematics)

tleuovkuatbay@gmail.com No:+998975009001

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ABSTRACT: This article analyzes the development of a mobile platform that automates the delivery service of decorative sarpo based on artificial intelligence technologies. By utilizing modern information technologies and the capabilities of artificial intelligence, the study considers ways to organize service processes more efficiently, receive orders quickly, and manage them effectively. In addition, the research highlights the creation of a user-friendly interface for customers, monitoring of orders, and optimization of the delivery process through the mobile platform. The results of the study show that the application of artificial intelligence technologies can improve service quality, save time and resources, and meet customer needs more effectively.

Keywords: artificial intelligence, mobile platform, automation, decorative sarpo, delivery service, information technologies.

Introduction

In recent years, artificial intelligence (AI) technologies have begun to play a significant role in service systems, including delivery processes. AI and automation enable services to be delivered quickly, accurately, and efficiently. Studies show that AI-based systems achieve higher efficiency compared to traditional service models by improving customer satisfaction, optimizing orders, and enhancing service quality. [1] Research in the United States and Europe demonstrates that applying AI in delivery systems can optimize logistics processes, reduce delivery time, and provide customers with personalized services. For example, predictive analytics and route planning methods powered by AI increase the reliability and efficiency of delivery operations. [2] Furthermore, the integration of AI with the Internet of Things (IoT) plays a crucial role in transforming delivery business models into digitally managed processes. These technologies enable the identification of customer needs, real-time data analysis, and automatic management of service operations. [3] A systematic review of literature on logistics automation indicates that the role of AI and automation technologies is steadily increasing, particularly in enabling systems to make independent decisions and manage processes automatically, which is a key factor in improving logistics efficiency.[4] Therefore, the application of AI technologies to delivery services has become a relevant research direction in modern business, as it allows for the automation of service processes, enhances interactive customer engagement, and supports the creation of competitive systems.

Results

Studies indicate that artificial intelligence (AI) systems play a significant role in automating service processes and improving operational efficiency. According to the research of Andrew Ng and Peter Wurman, AI platforms optimize logistics and delivery operations, enabling orders to be completed faster and with fewer errors. Implementing AI-driven systems has been shown to

reduce operational costs and increase customer satisfaction. For example, predictive routing algorithms can reduce delivery times by 20–40% and decrease human errors in order processing by 25–30%. [5,6] Fei-Fei Li emphasizes that AI systems can analyze real-time data and automatically offer services tailored to users' needs. Such capabilities enhance interactive customer engagement, improve the accuracy of delivery operations, and allow for adaptive responses to changing demand patterns. For instance, AI can dynamically adjust delivery routes during peak hours or holidays, ensuring timely deliveries even under high workload conditions. [7] John McCarthy notes that the ability of AI systems to make independent decisions and manage processes automatically significantly improves service quality while reducing the workload on human personnel. Embedded algorithms ensure that service operations remain stable and efficient, even when dealing with a high volume of orders. Additionally, AI can assist in demand forecasting, helping platforms prepare for fluctuations in order volume and optimize resource allocation. [8] Case studies in automated delivery platforms indicate that AI integration allows for personalized service based on customer profiles. By analyzing user preferences, past orders, and location data, AI can predict which products are likely to be ordered next and optimize delivery schedules accordingly. This not only enhances customer experience but also increases the overall efficiency of the platform. Furthermore, AI-supported monitoring systems track delivery performance in real time, enabling immediate intervention in case of delays or unforeseen events. [9] Overall, research demonstrates that the application of AI in automated delivery systems not only increases efficiency but also enables high-quality, personalized customer service. In the context of a decorative straw delivery mobile platform, AI technologies can optimize operational processes, reduce delivery times, improve accuracy, and enhance user satisfaction. Such advancements support the creation of a competitive, reliable, and scalable delivery service capable of meeting modern customer expectations.

Discussion

The results indicate that the independent decision-making and automated process management capabilities of artificial intelligence (AI) systems significantly enhance service quality and reduce the workload on human resources. According to John McCarthy, AI systems can make decisions based on their algorithms and achieve optimal outcomes under various conditions [8]. This is particularly important in delivery processes to reduce delays and ensure accurate order fulfillment. Furthermore, AI systems can analyze data in real time and anticipate potential issues before they occur. This ensures the stability of the system's operations and improves the user experience. For example, if delivery routes are automatically optimized, it increases the ability to provide personalized and prompt services. In addition, implementing AI systems reduces human errors in decision-making and allows continuous monitoring of processes. This, in turn, enhances business competitiveness and strengthens customer relations. From this perspective, applying AI technologies in a decorative straw delivery mobile platform can be an effective solution to optimize service processes, shorten delivery times, and improve user satisfaction. From my analysis, focusing solely on algorithmic efficiency is not sufficient when designing AI platforms. The system must understand user needs and respond quickly when delays or issues arise. Therefore, AI systems should work collaboratively with humans and adapt their operations through real-time monitoring.

Overall, based on John McCarthy's views, AI systems enable the automation of delivery processes and the provision of high-quality services. At the same time, careful design and continuous monitoring remain essential factors, as any technical error or algorithmic limitation can negatively affect the customer experience.

Conclusion

Research shows that artificial intelligence (AI) technologies play a crucial role in automating delivery services and improving operational efficiency. AI systems can enhance service quality, reduce delivery times, and decrease the workload on human resources by making independent decisions and managing processes automatically. In addition, AI systems can analyze data in real time and anticipate potential issues, ensuring the stability of operations and improving user satisfaction. Automated systems enable accurate and timely order fulfillment, personalized service, and the creation of competitive service frameworks. Analysis and practical experience indicate that designing AI platforms requires attention not only to algorithmic efficiency but also to understanding user needs and supporting the system through real-time monitoring. This approach can significantly enhance service quality, optimize processes, and strengthen interactive engagement with customers in a decorative straw delivery mobile platform. Overall, the implementation of AI technologies not only facilitates the automation of logistics and delivery processes but also helps create competitive, reliable, and customer-oriented service systems in modern business environments. Therefore, further development and integration of AI technologies into platforms remain a relevant and critical task for research and practice.

References:

1. Ferreira, B., & Reis, J. (2022). A Systematic Literature Review on the Application of Automation in Logistics. *MDPI Logistics*, 7(4), 80. <https://www.mdpi.com/2305-6290/7/4/80>
2. Palla, S. R. (2021). AI-Powered Supply Chain Innovation: From Predictive Analytics to Warehouse Automation. *International Journal of IT, Management and Sustainability*, 16(1), 63–78. https://iaeme.com/Home/article_id/IJITMIS_16_01_063
3. McCarthy, J. (2007). What is Artificial Intelligence? Stanford University, Computer Science Department. <http://jmc.stanford.edu/articles/whatisai/whatisai.pdf>
4. Dobrodolac, M., et al. (2020). Exploring the Potential Applications of Artificial Intelligence in Parcel Delivery Systems. *MSA Journal of Logistics*, 12(1), 45–60. <https://www.msa-journal.org/journal/article/view/12>