

UDC 656.71

ENHANCING AIRLINE OPERATIONS WITH AI-POWERED CRM: CURRENT CHALLENGES AND FUTURE OPPORTUNITIES

Ivan Steniakin

National Aviation University, Kyiv

Scientific advisor – Dmytro Shevchuk, ScD, professor

Keywords: airline, CRM, AI, NLP.

Introduction. In today's highly competitive airline industry, airlines are constantly seeking ways to improve their operations and provide a better customer experience. One way that airlines can achieve this is by leveraging the power of artificial intelligence (AI) in their customer relationship management (CRM) systems. This article will explore the current challenges and future opportunities of enhancing airline operations with AI-powered CRM.

Materials and methods. To understand the benefits and challenges of AI-powered CRM in the airline industry, a comprehensive review of the existing literature on the topic was conducted. Were analyzed studies and reports from academic journals, industry publications, and government agencies to identify the key themes and trends related to AI-powered CRM in the airline industry.

Results. The review of the literature identified several key benefits of using AI-powered CRM in the airline industry. These benefits include:

1. Personalization: AI-powered CRM can analyze vast amounts of customer data to provide personalized recommendations and services to customers, such as flight recommendations, personalized marketing campaigns, and loyalty programs [1].

2. Demand forecasting and capacity planning: AI-powered CRM can use predictive analytics and optimization models to forecast demand, allocate resources, and optimize flight schedules to maximize revenue.

3. Customer service and support: AI-powered CRM can use natural language processing (NLP) and chatbot technologies to provide 24/7 customer support and automate routine tasks, such as booking changes or flight status updates [2].

4. Operational efficiency and cost reduction: AI-powered CRM can optimize supply chain management, fleet maintenance, and fuel consumption to reduce costs and improve operational efficiency.

However, review also identified several challenges to implementing AI-powered CRM in the airline industry. These challenges include:

1. Data privacy and security: Airlines need to ensure that customer data is protected and comply with data privacy regulations such as GDPR and CCPA [3].

2. Integration with existing systems: Airlines need to integrate AI-powered CRM with their existing systems and processes, which can be complex and time-consuming.

Cost and resource constraints: Implementing AI-powered CRM can be expensive and require significant resources, including data scientists, analysts, and IT staff [4].

Conclusions

Despite the challenges, the potential benefits of AI-powered CRM in the airline industry are significant. By leveraging AI, airlines can personalize their services, optimize their operations, and improve their customer experience. However, to fully realize the benefits of AI-powered CRM, airlines need to address the challenges of data privacy, system integration, and resource constraints. Future research in this area should focus on developing AI-powered CRM solutions that are scalable, adaptable, and cost-effective.

References:

1. Davenport, T. H., & Ronanki, R. (2018). Artificial intelligence for the real world: Don't start with moon shots. *Harvard Business Review*, 96(1), 108-116.
2. Verhagen, W. J., & van Dolen, W. M. (2011). The influence of online store beliefs on consumer online impulse buying: A model and empirical application. *Information & Management*, 48(8), 320-327.
3. Bachir, S. (2021). THE EVOLUTION OF CUSTOMER RELATIONSHIP MANAGEMENT IN THE DIGITAL AGE AND ITS IMPACT ON BANKS. *The EUrASEANs: Journal on Global Socio-Economic Dynamics*, (3(28), 50-63. [https://doi.org/10.35678/2539-5645.3\(28\).2021.50-63](https://doi.org/10.35678/2539-5645.3(28).2021.50-63)
4. Ransome Epie Bawack (2021). Artificial intelligence in E-Commerce: a bibliometric study and literature review. <https://doi.org/10.1007/s12525-022-00537-z>