TECHNOLOGICAL INNOVATIONS AS A TOOL FOR MANAGING THE AVIATION INDUSTRY

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The modern aviation market is changing under the influence of rapid technological development, which opens up new opportunities for improving flight efficiency and safety. One of the key areas of innovative projects is the introduction of artificial intelligence and big data analysis to optimize routes, predict maintenance, and improve customer service.

In addition, aviation companies are actively introducing autonomous systems such as unmanned aerial vehicles and automated flight control systems. This helps to improve safety and reduce the risks associated with human error.

Alternative fuel technologies, including biofuels and hydrogen engines, are becoming increasingly important for reducing carbon emissions and achieving environmental sustainability in the aviation industry (Zhyvko et al., 2024).

Another important area is the introduction of digital technologies in the passenger service sector, such as biometric identification, blockchain for baggage management, and mobile applications for travel personalization (Bugayko et al., 2022).

Despite the significant benefits of technological innovations, their implementation is accompanied by a number of challenges, including the high cost of modernization, the need to adapt the regulatory framework, and cybersecurity. At the same time, strategic investments in the latest technologies allow airlines not only to increase their competitiveness, but also to make air travel more environmentally friendly, safe, and affordable.

The rapid development of technology is significantly transforming the aviation market, opening up new opportunities to improve the efficiency, safety and environmental sustainability of air transportation. The introduction of artificial intelligence, autonomous systems, alternative fuels, and digital technologies allows airlines to significantly improve their operational processes, reduce operating costs, and improve the quality of passenger service. However, despite the obvious benefits, the introduction of such innovations is accompanied by significant financial costs and the need to adapt to new regulatory requirements and ensure cybersecurity. Nevertheless, strategic investments in the latest technologies can significantly increase the competitiveness of airlines and make air travel more environmentally friendly, safe and accessible to a wide range of users.

References:

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