"THE ROLE OF DIGITAL TRANSFORMATION IN ENHANCING LOGISTICS EFFICIENCY FOR UZBEKISTAN'S TOURISM SECTOR"

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Abstract: *This topic could examine the impact of digital technologies, such as AI, IoT, and blockchain, on the logistics operations within Uzbekistan's tourism industry. It could analyze how these technologies can streamline processes, reduce costs, and improve overall visitor satisfaction.*

Key words: *Tourism, digitalizing, technology, analyzing, impact.*

The processes of economic digitalization involve many countries and the opening of organizations to new business models. For instance, the adoption of technologies such as blockchain (BC), information and communication technologies (ICT), artificial intelligence (AI), and big data or the Internet of Things (IoT) are transforming the way that people act and engage in their businesses, and the way that they produce goods and share useful information among the rest of the stakeholders along supply chains. Moreover, the integration of these technologies with the collaborative approach of the stakeholders can strengthen the overall effect.

Its success and diffusion worldwide are further due to the possibility of connecting this technology with other ones, modernizing different industrial sectors, and changing the so-called Industry 4.0. At present, no univocal definition of BC is considered. For instance, Jaber et al. define BC as a distributed ledger technology that allows the storing and sharing of data in a decentralized and immutable manner in a peer-to-peer network. Similarly, Treiblmaier considers BC as a digital, distributed, and decentralized ledger, where each transaction is added and recorded in chronological order, with the goal of making a permanent and tamperproof register. Thus, BC is a technology that is able to permanently store and protect data from alterations.

The most crucial technology trends in logistics in 2024 include:

- *Automation and robotics*
- *Artificial Intelligence (AI) and Machine Learning (ML)*
- *Blockchain*
- *Internet of Things (IoT)*
- *Augmented (AR) and virtual reality (VR)*
- *Autonomous vehicles and drones*
- *Digital twins*

Automation and robotics open our list of technology trends in logistics industry. According to the MHI Annual Industry Report (2023), they remain the leading innovations with the potential to either disrupt the industry (17%) or provide a competitive advantage with the power of process automation. Nearly 80% of respondents from the report plan to invest in integrating robotics and automation technologies into their operational frameworks. Automated picking and sorting systems, robotic palletizers, and autonomous guided vehicles (AGVs) streamline warehousing operations and reduce human errors. This technology for supply chain management enables your employees to focus on strategic efforts and minimize risks in hazardous environments. E-commerce giants Amazon and Alibaba consistently implement new trends and technology in logistics. For example, they utilize a vast fleet of robots in their fulfillment centers for sorting,

picking, and packing items.

Artificial Intelligence is currently considered the most influential innovation, indicating its readiness to bring about substantial and transformative changes in the industry.

According to the Market Research Future Report, the **blockchain** supply chain market is expected to grow at a compound annual growth rate (CAGR) of 45.55% from 2023 to 2030. And this is not surprising, considering how much this supply chain and logistics technology enhances transparency and security. What makes blockchain different from other warehouse technology trends? With it, each product or item gets a unique digital identity with an origin, manufacturing details, certifications, and ownership history. It allows for transparent and real-time visibility into the movement of goods from the point of origin to the final destination.

Attach sensors, tags, and trackers to your shipments, pallets, or containers, enabling real-time tracking of goods. Follow IT trends in transportation to get accurate and up-to-date information on the products' location, status, and condition. **IoT** helps identify potential issues, coordinate supply chain processes, and optimize inventory levels.

As tech trends in transportation, **AR and VR** provide several benefits. They create a safe and controlled environment for training, allowing employees to gain hands-on experience without the risks associated with real-world operations. It leads to significant cost savings by eliminating travel expenses and boosting productivity. Also, companies adopt transportation technology trends to reduce CO2 emissions, contributing to environmental preservation.

Autonomous vehicles and drones are a significant part of SCM technology trends, focusing on reducing the risk of accidents, cutting expenses, and improving delivery times. They have GPS, collision avoidance systems, and advanced flight control tools to ensure safe and precise navigation.

Regarding **IT trends** in supply chain management, it would be a huge mistake to forget about digital twins. They are virtual copies of physical assets and processes, allowing real-time monitoring and performance improvement. Freight brokers optimize routes, manage inventory better, and make agile decisions using this technology.

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