

Technological advancements in improvement of intermodal software and supply chain management of multinational corporations in Uzbekistan

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Annotation. *The formation and growth of technologies are greatly influenced by supply chains management, which implies that the tourism distribution networks are intimately connected to the world economy. The effectiveness and dependability of supply chain management are essential for multinational firms to succeed in the modern, international economy. With its advantageous location at the intersection of important commercial routes, Uzbekistan is quickly becoming one of Central Asia's key hubs for logistics and transportation. This study examines the developments in intermodal software technology and how they affect multinational companies' supply chain management in Uzbekistan.*

Keywords: *business management, supply chain management, intermodal software, digital transformation, multinational corporations.*

Технологические достижения в области совершенствования интермодального программного обеспечения и управления цепочками поставок транснациональных корпораций в Узбекистане

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Аннотация. *На формирование и развитие технологий большое влияние оказывает управление цепочками поставок, что подразумевает тесную связь туристических дистрибьюторских сетей с мировой экономикой. Эффективность и надежность управления цепочками поставок необходимы многонациональным компаниям для достижения успеха в современной международной экономике. Благодаря своему выгодному расположению на пересечении важных коммерческих маршрутов, Узбекистан быстро становится одним из ключевых логистических и транспортных узлов Центральной Азии. В данном исследовании рассматриваются разработки в области интермодальных программных технологий и то, как они влияют на управление цепочками поставок транснациональных компаний в Узбекистане.*

Ключевые слова: *бизнес-менеджмент, управление цепочками поставок, интермодальное программное обеспечение, цифровая трансформация, транснациональные корпорации.*

O'zbekistonda transmilliy korporatsiyalarning intermodal dasturiy ta'minoti va ta'minot zanjiri boshqaruvini takomillashtirish bo'yicha texnologik yutuqlar

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Annotatsiya. *Texnologiyalarning shakllanishi va o'sishiga ta'minot zanjirlarini boshqarish katta ta'sir ko'rsatmoqda, bu esa turizmni tarqatish tarmoqlari jahon iqtisodiyoti bilan chambarchas bog'liqligini anglatadi. Ta'minot zanjirini boshqarishning samaradorligi va ishonchliligi transmilliy firmalarning zamonaviy, xalqaro iqtisodiyotda muvaffaqiyat qozonishi uchun juda muhimdir. Muhim savdo yo'llari chorrahasida qulay joylashuvi bilan O'zbekiston tezda Markaziy Osiyoning logistika va transport sohasidagi muhim markazlaridan biriga aylanib bormoqda. Ushbu tadqiqot intermodal dasturiy ta'minot texnologiyalarining rivojlanishi va ularning O'zbekistondagi transmilliy kompaniyalarning ta'minot zanjiri boshqaruviga qanday ta'sir qilishini o'rganadi.*

Kalit so'zlar: *biznesni boshqarish, ta'minot zanjirini boshqarish, intermodal dasturiy ta'minot, raqamli transformatsiya, transmilliy korporatsiyalar.*

Introduction. The emergence of global value-added networks that closely link companies in different countries has changed the structure of trade and made traditional methods and associated statistical indicators less relevant. What was initially an innovative approach to business management has become a highly successful phenomenon, changing not only the economic aspects of trade, but also triggering a transformational process that significantly influences our understanding of development and social policy. (Alejandro Jara & Hubert Escaith, 2012).

Even though people are becoming more aware of the potential for tourism in the area and the role those technological advancements in improvement of intermodal software and supply chain management of multinational Corporations in Uzbekistan. Logistics plays in supporting that growth, there is still much to learn about how foreign economic policies affect the creation and expansion of global logistics chains and tourism distribution networks.

The primary goal of this research is to conduct a thorough examination of the function of supply chains and advancements in improvement of intermodal software and supply chain management of multinational Corporations in Uzbekistan. Technological advancements, as well as to determine how the advancement of logistics and transportation networks is impacted by economic policies.

Material and methods. The performance of a business is directly impacted by the efficacy of supply chain management (SCM), a critical component of corporate operations. The extent to which digital transformation has altered company in the contemporary period and how it impacts supply chain management cannot be overstated. With the world becoming more networked and data-driven, supply chain management has seen a rise in the importance of digital transformation. With a more networked and data-driven society, supply chain management has become increasingly dependent on digital transformation. Because of the digital transformation, supply chain management has experienced a paradigm shift that has fundamentally changed how businesses plan, execute, and maximize their operations (Trifilova, 2011). A notable outcome of this is the heightened level of openness and awareness throughout the whole supply chain.

Thanks to the integration of digital technologies like the Internet of Things (IoT), businesses can now track goods and shipments in real-time, enabling them to make informed decisions and respond promptly in the event of disruptions. Big data analytics can also be utilized to learn meaningful information about customer demand patterns and market trends, which can enhance demand forecasting and inventory management. Routine tasks have been optimized by automation and artificial intelligence, which has reduced errors and inefficiencies. Furthermore, block chain technology is making supply chain transactions safer and more reliable. The combined effects of digital transformation empower organizations to operate with greater durability, efficacy, and nimbleness, enhancing their ability to deliver goods and services in a more cost-effective and customer-focused manner.

Additionally, digital transformation maximizes inventory control for firms (Alejandro Jara, Hubert Escaith, 2017). By employing data analytics and predictive algorithms, businesses may save carrying costs, eliminate surplus inventory, and enhance demand forecasts.

Costs are decreased and profitability increases as a result.

Important aspects of how supply chain management is affected by digital transformation.

Supply chain management is greatly impacted by the adoption of digital transformation since it makes it possible for businesses to improve their operational agility, visibility, and efficiency. The following are some significant ways that digital transformation affects supply chain management (Santeramo, Morelli, 2015):

- **Analytics and Real-Time Data:** Thanks to digital transformation, which provides them with access to real-time data and advanced analytics tools, organizations may make data-driven decisions. This improves demand forecasting, inventory control, and overall supply chain optimization.

- **Sensor Technologies and IOT:** Internet of Things (IOT) devices and sensors enable real-time tracking of goods in transit and across the supply chain. By monitoring the location and state of products, this enhances inventory control and reduces losses.

- **Cloud Processing:** Scalability, data sharing, and collaboration are made possible throughout the supply chain by cloud-based platforms and software solutions. Cloud computing makes communication easier and gives you instant access to important data from any location.

- **Block Chain:** Blockchain technology enhances supply chain transparency and traceability. It reduces fraud, ensures product authenticity, and fosters confidence among supply chain actors.

- **Artificial intelligence (AI) and machine learning:** AI and machine learning algorithms increase predictive analytics, automate repetitive tasks, and improve supply chain operations. They can examine large datasets to identify trends and patterns that aid in guiding better informed judgments.

- **Supply Chain Transparency:** As a result of digital transformation, products and materials are more visible across the supply chain. This visibility reduces the likelihood of disruptions, improves cargo tracking, and increases ETA precision.

- **Robotics & Automation:** By optimizing order fulfillment, last-mile delivery, and warehouse operations, automation technologies lower labor costs and errors.

- **Autonomous cars and robotic process automation (RPA)** are two examples of these technologies.

- **Omni-channel and e-commerce strategies:** These days, e-commerce platforms and Omni-channel strategies are crucial parts of supply chain management. They require digital solutions in order to manage inventory, order fulfillment, and customer relations efficiently.

- **Supplier Partnership:** Digital transformation technologies like supplier portals and communication platforms enhance supplier collaboration. The responsiveness, coordination, and communication of the supply chain are improved as a result.

- **Risk control:** Digital technologies and analytics can be used to identify and reduce risks related to the supply chain, such as disruptions from natural catastrophes, geopolitical events, or regulatory changes.

- **Sustainability and the Environment:** Digital transformation may support sustainability goals by optimizing workflows, reducing waste, and keeping an eye on the environmental impact of the supply chain. Within the context of corporate social responsibility, this is becoming an increasingly important point.

- **Relationship with the client:** The customer experience is enhanced by increased supply chain visibility and responsiveness. Customers may receive order tracking, accurate delivery estimates, refunds quickly, and customer support.

The effects of digital transformation on supply chain management might vary depending on the type of business, the industry, and the level of technology adoption. On the other hand, implementing these crucial components can lead to significant improvements in supply chain efficiency, cost savings, and customer satisfaction (Santeramo, Morelli, 2015).

Conclusion. In conclusion, this study underlines how important it is to solve problems such as the quality of logistics services and the lack of trading companies in Uzbekistan to meet the growing

needs of the international market. This problem is exacerbated by the fact that the country depends on its neighbors for exports, making it difficult to diversify export destinations.

By means of an extensive analysis of transportation services, specifically roads and railroads, this research seeks to identify viable solutions that foster economic expansion. With the use of secondary data analysis and a descriptive quantitative methodology, the research has produced a comprehensive picture of Uzbekistan's cargo transportation services as they are today. This study emphasizes how important supply chain management is to advancing technology, which has a big impact on the world economy overall, including distribution networks for tourism. In the contemporary global marketplace, the efficiency and dependability of supply chain management are critical to the success of multinational corporations. Due to its advantageous location at the intersection of important commercial routes, Uzbekistan is becoming a key logistics and transportation center in Central Asia.

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