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THE ROLE OF IT IN TRANSFORMING MODERN SUPPLY CHAIN MANAGEMENT

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Annotation

this article will talk about the fact that in the business world the term “supply chain” is used a lot, what the supply chain itself is, about production, how to optimize costs for efficient supply chain companies, ensure product quality, supply and a number of similar issues.

Keywords

supply chain, concept, raw material, consumer, process, stage, production.

Аннотация

В этой статье рассказывается о том, как часто термин “цепочка поставок” используется в деловом мире, что такое сама цепочка поставок, производство, эффективная цепочка поставок, оптимизация затрат для компаний, обеспечение качества продукции, доставка и ряд других вопросов.

Ключевые слова

цепочка поставок, концепция, сырье, потребитель, процесс, этап, производство.

Annotatsiya

Ushbu maqolada biznes dunyosida “ta’minot zanjiri” atamasi ko`p ishlatilayotganligi, ta`minot zanjiri o`zi nima ekanligi, ishlab chiqarish haqida, Samarali ta’minot zanjiri kompaniyalarga xarajatlarni optimallashtirish, mahsulot sifatini ta’minlash, yetkazib berish va shu kabi bir qator masalalar haqida so`z boradi.

Kalit so`zlar

ta`minot zanjiri, tushuncha, xomashyo, iste`molchi, jarayon, bosqich, ishlab chiqarish.

In today’s digital era, businesses are leveraging technology to optimize their supply chain operations. Supply chain management (SCM) has evolved from traditional methods to highly sophisticated, data-driven systems that improve efficiency, reduce costs, and enhance customer satisfaction. Information

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Technology (IT) plays a critical role in this transformation, enabling companies to achieve real-time visibility, automation, and predictive decision-making.

The Impact of IT on Supply Chain Efficiency

1. Real-Time Tracking and Visibility

• Technologies like IoT (Internet of Things), RFID, and GPS enable companies to track shipments, monitor warehouse inventory, and predict delays before they occur.

• Companies like Amazon and Walmart leverage these technologies to enhance customer service and streamline logistics.

2. Automation and AI Integration

• Artificial Intelligence (AI) and Machine Learning (ML) are revolutionizing SCM by automating demand forecasting, optimizing inventory management, and reducing human errors.

• For example, AI-powered warehouse management systems (WMS) help businesses manage stock levels efficiently, minimizing excess inventory costs.

3. Blockchain for Transparency and Security

• Blockchain technology enhances security in supply chain transactions by ensuring data integrity, traceability, and fraud prevention.

• Major corporations, such as IBM and Maersk, have implemented blockchain-based solutions to track shipments securely across international borders.

4. Cloud-Based SCM Platforms

• Cloud computing enables global supply chain integration, allowing businesses to access data from anywhere and collaborate in real time.

• Platforms like SAP SCM, Oracle SCM Cloud, and Microsoft Dynamics 365 facilitate better supply chain management by providing analytics, automation, and centralized communication.

In the modern business world, the term “supply chain” is increasingly used. But what lies behind this complex concept? How does the supply chain work and how does it affect businesses and consumers?

Simply put, a supply chain is an interconnected system of all stages, processes and entities involved in the transformation of raw materials into finished products and delivery to the final consumer. This includes manufacturers, suppliers, manufacturers, carriers, wholesalers and retailers.

An efficient supply chain allows companies to optimize costs, ensure product quality, reduce delivery times, and respond quickly to customer requirements. At the same time, a break or break in the supply chain can lead to serious financial losses and discrediting of the company.

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A supply chain map is not just a process. It serves as your strategic compass and provides in-depth guidance to help improve supply chain and inventory management. This methodology involves the creation of a visual image of the entire supply chain network, from raw material sources to the delivery of the final product to consumers.

A supply chain is a set of all processes, organizations, resources and activities, from raw materials to the delivery of a product or service to the end consumer. In other words, the supply chain includes all the steps necessary to produce and distribute the product.

Modern supply chain management plays an important role in the success of the business. At a time when Global competition has increased, technology has developed, and consumer demand is changing, supply chain management gives companies an edge.

The initial stage of the supply chain process is the planning stage. A plan or strategy must be developed to decide which products and services meet the requirements and meet the needs of customers. At this stage, planning should focus mainly on developing a strategy that will bring maximum benefits. After planning, the next step is development. At this stage, the focus is on building strong relationships with suppliers of raw materials needed for production. It is not only the identification of reliable suppliers, but also the identification of various methods of Product Planning, Delivery and payment. Thus, at this stage, supply chain managers must develop a set of price fixing, supply and payment processes with suppliers, as well as create conditions for control and communication. Finally, supply chain managers can combine all of these processes to process their goods and services. This processing involves receiving and checking cargo, transferring them to manufacturing enterprises and allowing seller fees.Below is a detailed description of the changing role of modern supply chain management:

1. Globalization and complexity:

• Expansion of supply chains: companies spread to different countries for raw materials, production and distribution. This increases the complexity of the chain.

• Increased competition: Global competition forces companies to reduce costs, increase quality and deliver faster.

• Market volatility: demand volatility and surprises (natural disasters, political instability) affect supply chains.

2. The role of technology:

• Big Data and analytics: by analyzing large amounts of data, it is possible to predict demand, optimize inventory, and identify risks.

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* Cloud technologies: facilitates information sharing and collaboration among all participants in the supply chain.

• Artificial intelligence (SI) and machine learning (MO): used for automation, decision making and optimization. For example, SI can be used to predict demand, manage inventory, and optimize traffic.

* Blockchain technology: increases the transparency of the supply chain and prevents falsification. Allows you to observe and check each stage of the product.

• Internet of Things: real-time monitoring of the state of each object in the supply chain using sensors. For example, food spoilage can be prevented by monitoring the temperature.

3. Consumer change:

• Volatility of demand: consumer demand changes frequently. Companies are forced to adapt to this.

* Personalized products: consumers demand personalized products and services.

• Fast delivery: consumers want to get the product faster.

* Transparency and sustainability: consumers want information about where and how the product is manufactured. They also pay attention to stability.

4. Risk management:

• Interruptions in the supply chain: natural disasters, political instability, pandemics and other events can affect the supply chain.

• Risk identification and assessment: companies must identify and assess risks in their supply chain.

* Diversification: risks can be reduced by diversifying suppliers.

* Reserve plans: in case of interruptions in the supply chain, Reserve plans must be drawn up.

5. Sustainability and social responsibility:

• Reducing environmental impact: companies should try to reduce the environmental impact of the supply chain. This includes reducing emissions, increasing energy efficiency, and using renewable resources.

• Social responsibility: companies must ensure fair working conditions in the supply chain.

* Transparency: companies should be transparent about supply chains.

6. New models of supply chain management:

• Agile supply Chain (): a supply chain capable of quickly adapting to changing requirements.

• Lean supply Chain (Lean Supply Chain): a supply chain aimed at reducing emissions.

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• Digital Supply Chain (): a technology-based supply chain.

Conclusion:

IT has become the backbone of modern supply chain management, offering automation, transparency, and predictive analytics to enhance efficiency. Companies that embrace digital transformation will stay ahead of the competition, ensuring resilience, cost savings, and customer satisfaction. Modern supply chain management is essential to the success of companies. Factors such as globalization, technology, consumer change, risk management, and sustainability are changing tzb's role. Companies need to apply the principles of modern tzb, use technology and adapt to changes. Through this, they can maintain competitiveness and achieve success.