Integration of Digital Technologies into Marketing Logistics Systems

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Abstract: Marketing logisticsIt is the task of planning, implementing, and controlling the physical flow of relevant information, materials, and end products to profitably meet customer requirements.

In today's global markets, selling products is sometimes easier than getting customers. Companies must determine the most efficient ways to sell, manage, and move their operations (products and services) to customers at the right time, in the right place, and in the right assortment. Physical distribution and supply chain capabilities have a major impact on customer satisfaction and company costs. We will now review the nature and importance of supply chain management, the goals of supply, and the need to create a unified supply chain. In the modern era, intensified competition, market globalization, and increasing customer expectations have necessitated the modernization and digitization of logistics systems. The application of digital technologies, especially in the field of marketing logistics, not only increases supply chain efficiency, but also ensures customer satisfaction and flexibility in the market. This article examines the integration of digital technologies into marketing logistics systems and assesses the opportunities and challenges created by this process.

Keywords: competition, consumer, e-commerce, cloud computing, internet of things, big data

Introduction

Marketing logistics deals with the efficient organization of the movement of products from the point of production to the end consumer. This includes warehousing, transportation, order management, and information flow planning. Logistics, as one of the main components of marketing strategy, serves to provide products at the right time, in the right place, and in the required quality.

In the modern era, the intensification of competition in the market, the constant change in consumer demands and expectations, people's desire for greater accessibility, and the rapid development of e-commerce in the world have made the integration of digital technologies into marketing logistics relevant. As such, customers now expect faster, more accurate and personalized service. Demands such as online shopping, delivery tracking, and rapid response have made the digitalization of logistics systems an important factor. [2]

Discussions

As we know, digital technologies provide efficiency and flexibility in production and sales processes. Digital technologies bring new dynamics to marketing logistics processes by increasing the possibilities of rapid processing, sharing and management of information.

The main types of technologies used in marketing logistics are:

ERP systems (Enterprise Resource Planning)

1. ERP systems integrate various functions of an enterprise – production, sales, procurement, warehouse, finance and human resources – into a single platform, allowing for real-time data management. In the field of logistics, ERP systems are used to receive orders, track product movements, automatically plan inventory and coordinate delivery processes. These systems enable more accurate, faster and more transparent management of processes.

ERP (Enterprise Resource Planning) systems are complex information systems that allow for the integrated management of all resources of an enterprise (finance, material, human resources, logistics, etc.) through a single software package. These systems ensure the flow of information between all departments of the enterprise and enable real-time monitoring and coordination of processes.

Marketing logistics encompasses the essential operations required to deliver a company's products to the market. ERP systems enable the planning, coordination, and control of these operations, creating a more efficient logistics chain. [1]

The main functions of ERP systems are as follows:

- Financial management– budgeting, accounting, expense tracking
- Human resources management– employee information, payroll, performance tracking
- Procurement and purchasing– placing orders, relations with suppliers
- Warehouse and inventory management– automatic control of stock levels
- Logistics and transportation– route planning, tracking of transportation operations
- Accurate tracking and analysis of customer orders

The advantages of ERP systems are mainly integration, efficiency and transparency. Thus, through ERP systems,It integrates all business functions on a single platform, reduces human errors by automating manual tasks, provides fully transparent tracking of operations and resource usage, and supports strategic decision-making with extensive and accurate data analysis.

The most widely used ERP software in the world includes the following:

- SAP ERP
- Oracle NetSuite
- Microsoft Dynamics 365
- Infor ERP
- Odoo (affordable option for small and medium businesses)

SAP (Systems, Applications and Products)Created in Germany and the most widespread ERP system in the world. SAP ERP systems are designed for large enterprises and cover finance, human resources, supply chain, sales and production. SAP systems have a multi-module structure and are scalable. They provide companies with process automation, data transparency and real-time reports. The main users of this program in the world are famous companies such as Coca-Cola, BMW, Siemens, etc.

Oracle NetSuiteis a cloud-based ERP platform and is suitable for medium and large enterprises. The NetSuite ERP system includes financial management, customer relationship management (CRM), e-commerce integration, project management and other functions. Since NetSuite works primarily on cloud technology, companies can access data from anywhere.

Microsoft Dynamics 365This ERP platform developed by Microsoft combines both ERP and CRM functions. Dynamics 365 has a modular structure and combines the finance, sales, service, marketing and resource planning of an enterprise into a single platform. Integration capabilities with other Microsoft products (Office 365, Power BI, Azure) make it even more convenient.

Infor ERPis a software mainly aimed at manufacturing, trade and healthcare sectors. Infor ERP offers cloud-based and on-premise versions. This system is used in warehouse, supply chain, financial and productivity management. It has gained popularity among users due to its simple interface and sector-specific modules. Companies such as Ferrari, Bausch + Lomb, Triumph Motorcycles, etc. around the world use this software.

And Odoois an open source ERP system designed primarily for small and medium-sized businesses. Its main advantages are low cost, extensive modules, convenient application and user interface. Odoo modules include areas such as sales, warehouse, project management, customer service, e-commerce and finance. Since it is open source, users can modify it to suit their needs.

2. IoT (Internet of Things)- IoT is a system in which devices communicate with each other over the internet and transmit and receive information. In logistics, IoT technology allows the status and movement of trucks, containers, warehouse equipment, and products to be monitored in real time. For example, it is possible to monitor where a truck is and at what temperature it is transporting products through IoT sensors. This technology not only reduces risks, but also strengthens product quality control.

IoT (Internet of Things)– is a technology that refers to the process of physical objects (devices, vehicles, storage systems, sensors, etc.) communicating with each other via the Internet and transmitting and receiving information. These devices independently collect, transmit information, and sometimes even make decisions. The goal is for things to become "smart" and work without the need for intervention. The Internet of Things creates revolutionary innovations in the fields of diagnostics, control, and automation, creating conditions for increasing productivity and more efficient use of resources in various fields.

IoT technology allows for the automation and optimization of a number of operations in marketing logistics:

- Real-time tracking– The location and status of products, containers, and vehicles can be tracked through sensors and GPS devices.
- Warehouse control– IoT-based systems can continuously monitor warehouse temperature, humidity levels, product flow, and inventory status.
- Time and cost optimization– Transportation costs and delivery time can be minimized through smart route planning.
- Product safety– Sensitive products (such as medicines or food products) are kept under constant control through temperature and humidity sensors during transportation.
- Automatic ordering system– If product stock in warehouses decreases, the system can automatically create a new order.

3. Cloud technologies (Cloud computing)-Cloud technologies ensure that data is stored and managed on online platforms, rather than on physical servers. In marketing logistics, cloud technologies enable order information, inventory levels, customer information, and logistics plans to be accessible anytime, anywhere. This not only speeds up the flow of information, but also enhances collaboration and communication capabilities.

Cloud technologies, is a technology that provides users with access to computing power, memory, software, and data over the internet. Unlike traditional local servers, users store their data and programs on remote servers and can access them anytime, anywhere via the internet.

This technology has revolutionized the field of information technology by providing enterprises with affordable pricing, flexibility, scalable infrastructure, and technical support.

The integration of cloud technologies into logistics systems allows for more flexible and transparent implementation of operations. Cloud technologies are one of the main technological pillars that ensure the flexible, dynamic and global operation of modern marketing logistics systems. The correct application of this technology creates competitive advantages for enterprises, cost reductions and more effective customer service opportunities. [3]

The application of cloud technologies in the Azerbaijani market is still in its infancy, but the use of these technologies in the country is increasing in various fields. The application of cloud technologies in the public and private sectors results in a more agile work environment and more efficient use of resources.

Azerbaijan has begun to apply cloud technologies in public services and administration. In particular, many public services are provided on cloud-based platforms within the framework of the E-Government and Digital Azerbaijan projects.

Electronic Government Portal:Through electronic services, citizens and businesses can easily benefit from various government services. Through cloud technologies, these services ensure data encryption and security, protecting citizens' information security.

Centralized Cloud Infrastructure:Centralized cloud services are widely used to facilitate information exchange between government agencies and organize services efficiently. This also reduces time and costs in providing public services.

4. AI (Artificial Intelligence) and Big Data- Artificial intelligence and Big Data analytics are used to process large amounts of information to make predictions, automate decisions, and optimize. In logistics, AI algorithms can calculate the supply-demand balance, optimize routes, and analyze customer behavior. Big Data helps businesses make accurate strategic decisions by analyzing thousands of orders, deliveries, and sales transactions.

AI (Artificial Intelligence) and Big DataThe role of information technology in marketing logistics has become even more important today. These technologies allow organizations to better understand customer behavior, optimize operations, and make faster and more accurate decisions.

Artificial intelligence (AI), is a technology that gives computers and machines the ability to think and learn like humans. The use of AI technologies in marketing logistics provides organizations with great advantages in areas such as automating more internal operations, improving customer service, and optimizing the product supply chain.

Chatbots and virtual assistants, which use artificial intelligence, are in touch with customers 24/7. These systems can instantly answer customer questions, take orders, and speed up customer service. For example, when a customer asks for information about a product, an AI-based chatbot automatically provides product information.

Artificial intelligence analyzes inventory levels in logistics processes to ensure that needed products are ordered on time. AI algorithms monitor the amount of products in warehouses, preventing unnecessary stockpiling and helping to ensure that needed products are delivered on time.

AI simplifies warehouse management, controls data flow, and automates product picking processes through robots, which increases workforce efficiency and reduces errors.

5. RFID and automated identification systems- RFID (Radio Frequency Identification) – is a technology for automatic recognition and tracking of products using radio waves. This system allows the data written on the labels on the products to be read remotely. In logistics processes, RFID allows the stages of entering the warehouse, loading, transportation and delivery of products to be tracked manually and accurately. This technology reduces time loss and human errors in warehouse and inventory management.

RFID (Radio Frequency Identification)and automated identification systems are widely used in marketing logistics and are important tools for making modern logistics operations more flexible, efficient and accurate. These technologies enable automatic tracking of products and services, inventory management and optimization of delivery processes. [4]

Radio Frequency Identification is a technology that allows objects and products to be identified using radio waves. The RFID system mainly works with tags, readers and antennas. RFID tags attached to each product or object contain unique identifiers and these tags are read by readers from a distance.

RFID enables automatic tracking of products in warehouses and supply chains. This technology provides real-time information on the location of products and updates stock levels instantly. This eliminates backordering, rapid delivery, and stock shortages.

RFID systems facilitate the automatic receipt and removal of products from the warehouse. Warehouse workers can speed up the product placement and removal processes, which reduces operational costs.

Customers can access the integrated warehouse system through RFID tags. When a customer makes a purchase, product information is provided through RFID tags. This ensures faster and more efficient customer service.

RFID also enables tracking of products during transportation and delivery. Delivery routes and supply chain stages are tracked through RFID tags, helping organizations gain more accurate information about their movements.

RFID is also very effective in international product transportation. International tracking of products during import-export operations can be done more simply and accurately with RFID tags.

Conclusion

The integration of digital technologies into marketing logistics systems is of great importance in the modern business environment. The integration of these technologies into marketing logistics systems not only reduces costs, increases speed and efficiency, but also helps to make better decisions, respond quickly to customer demands and offer personalized services. Tools such as data analysis and automation accelerate the development of innovative approaches in the field of marketing and logistics, making it easier for enterprises to adapt to market conditions.

As a result, the use of digital technologies in the field of marketing logistics leads to better management of business processes, increased product and service quality, and customer satisfaction. As organizations adopt these technologies, they can gain a competitive advantage and operate more sustainably and efficiently. Thus, the integration of digital technologies into marketing logistics systems is an important step both to adapt to the requirements of the current environment and to identify and use new opportunities early in the future.

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