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Marketing Logistics and its Digitalization

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Keywords: Consumer, Management, Marketing Logistics, Digitalization, Digital Tools.

Abstract: The article highlights the essence and role of marketing logistics in the conditions of the modern market environment and overviews the trends in its digitalization. The study is relevant due to the strategic importance of marketing logistics for business competitiveness, improving operational efficiency, and meeting modern consumer demands. The purpose of the article is to highlight the historical process of forming marketing logistics as a modern management concept and the current trends in its digitalization. The theoretical foundations of marketing logistics summarized in this work will facilitate the integration of digital technologies into marketing logistics, improve business processes, and support the sustainable development of companies in the context of dynamic changes in the global market. Comparative, institutional, systemic, and structural-functional methods are used to conduct research. Considerable attention is paid to highlighting the reasons for the need for digitization of marketing logistics and the problems that arise in its process. The main reason for the need for digitization of marketing logistics is defined as obtaining competitive advantages by companies. The main problems that arise in the process of marketing logistics digitalization include a lack of a digitalization strategy, a lack of technology awareness, etc. The necessity of training marketing logistics specialists who have deep professional knowledge and skills in the field of economics and management, as well as in the field of digital information and communication technologies is emphasized. The main modern trends in the use of digital tools of marketing logistics are characterized. It is concluded that marketing logistics is an effective concept of business process management, and its digitalization is an integral component of modern economic development, which contributes to increasing the efficiency of companies and maintaining their competitiveness.

1 INTRODUCTION

In modern conditions of highly competitive product markets and constant changes in the marketing environment, one of the important ways of achieving success for companies is to speed up the time goods go through supply chains and build flexible logistics systems. This can be ensured by transitioning the management of companies' business processes to marketing logistics approaches.

Marketing and logistics integration allow companies to focus on finding better ways to serve consumers as a source of competitive advantage [1]. Speed, quality of service, and customer satisfaction are considered to be a crucial factor that unites marketing and logistics.

Today, there is a rapid digitization of the economy, and marketing logistics in particular, which creates favorable conditions for increasing the efficiency of companies, increasing the productivity of employees, better identifying and meeting the needs of consumers, and ensuring the appropriate level of service.

Modern automation tools, capabilities of computer and information-and-communication systems amaze the imagination and make the prospects of using digital solutions in marketing logistics extremely significant.

2 MARKETING LOGISTICS AS A MODERN CONCEPT OF COMPANY MANAGEMENT

Economic science has a large number of theories, approaches and concepts of company management. With the development of socio-economic relations, constant changes in the market environment and the constant growth of competition, management concepts disappeared or improved. Thus, in the middle of the 20th century, two relatively young concepts of company management emerged, firstly, a marketing one and then, a little bit later, a logistics one.

Scientists and practitioners understood an increasing need to deepen the integration of both concepts, which gave rise to the emergence of the concept of marketing logistics. Converse (1954) noted that physical distribution should be considered in the context of marketing activities, marking one of the first steps toward integrating marketing and logistics [2]. Kotler (1967) emphasized the importance of planning, implementing, and controlling the physical flow of goods from their point of origin to the point of consumption to meet customer needs [3]. Drucker (1962) substantiated the importance of an integrated approach to distribution and marketing, contributing to the development of the concept of marketing logistics [4]. Christopher and Peck (1997) focused on the strategic integration of marketing and logistics processes to create value for consumers, considering the integration of marketing and logistics within the supply chain context [5].

A new management concept is based on the following ones:

1) a marketing concept of management focused on consumers and the market;
2) a logistics concept of management focused on logistics flow.

According to the concept of marketing logistics, company management should focus on both the market and consumers, as well as the logistics flow.

Subsequently, researchers expanded the concept of marketing logistics to the level of integration of marketing management with supply chain management [6; 7]. Marketing logistics seeks to manage the interface between the marketing and logistics activities of the company to align their respective strategies within the context of the wider supply chain [1].

The concept of marketing logistics is aimed at achieving optimal interaction of marketing and logistics processes. The main goal of marketing logistics is to meet the needs of consumers and achieve a high level of efficiency of the entire supply chain [8]. Marketing logistics is considered as a strategic tool that helps companies to effectively interact with the market, predict, and quickly adapt to changes in the market environment. Effective integration of the company's marketing and logistics, and as a result, the implementation of marketing logistics approaches, is the factor that can ensure its competitiveness and success [9].

Generally, marketing logistics interaction is the following [10]:

1) interrelated management concepts (logistics and marketing as a streaming market construct);
2) logistics is the basis for the application of a marketing as the basis for developing a logistics strategy and optimizing the logistics system;
3) tools for achieving and maintaining competitive advantages.

Among the main functions of marketing logistics, there can be distinguished demand forecasting, order management, customer service, procurement management, inventory management, warehousing, transportation, distribution management, management of relationships with participants in the logistics supply chain (suppliers, partners, consumers).

In the approaches to company management, the synthesis of marketing and logistics is based on the contact points of its marketing and logistics mixes.

Stock and Lambert [11] pay considerable attention to the study of the relationship between marketing activities of companies and logistics. The "Place" element of the marketing mix is defined as a point of contact between marketing and logistics activities. This is explained by the fact that at the point of sale, customer service is carried out, the requirements of which are determined by marketing, but fulfilled by logistics. The authors claim that consumer service is the result of the joint work of marketing and logistics, which are connected by a common goal, namely satisfaction of requests and needs of consumers.

We share this view. However, we consider that the number of such contact points involved in the interaction of the classic marketing mix "4 Ps" ("Product", "Price", "Place", "Promotion") and the logistics mix "8 Rs" ("Product", "Quantity", "Quality", "Consumer", "Place", "Time", "Expenses", "Service") is much more (Figure 1).

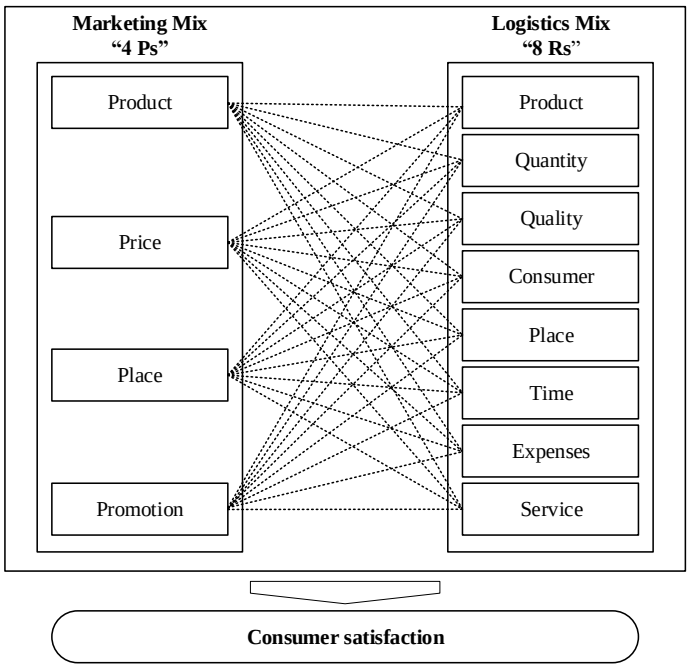

Figure 1: Interaction of the marketing and logistics mix.

Studying the market and identifying consumer needs takes place through marketing research. But even before they are held, logistics already play an important role. Since certain markets and consumers may be logistically inaccessible or limited in access for the company, it is impossible to achieve the fulfillment of the rules of the logistics mix "8 Rs". The reasons why logistics is limited or unavailable at all can be different, e.g. distant geographical location, political, legal, economic or other barriers (wars, pandemics, etc.). Logistical limitations significantly affect the decision-making of companies to conduct such marketing research, at least in the short term.

If marketing research has been conducted, consumer needs have been identified, and target market segments have been determined, and then the stage of marketing development of a product to satisfy them begins. This is the traditional area of the company's marketing product policy ("Product" marketing mix element), which is provided in cooperation with R&D departments. But even here, companies cannot do without a logistical approach in determining what the product should be to become logistically available to consumers, in particular, what should be its physical and chemical properties, dimensions, packaging, etc. A similar situation occurs in the assortment management field – the logistics largely determines the possibility of its formation, expansion or narrowing. The role of logistics in making decisions about eliminating products and their practical implementation is also important.

There are much more contact points between marketing and logistics than those referring to the "Place" element of the marketing complex. From our point of view, they are widely present in the "Product", "Price" and "Promotion" elements as well.

Maximal satisfaction of requests and needs of consumers is achieved under the condition that consumers are fully met with each of the elements of both the marketing and logistics mix. In our opinion, this is the goal of marketing logistics.

3 REASONS AND PROBLEMS OF DIGITALIZATION OF MARKETING LOGISTICS

Digitalization is changing the world, industries, companies, business models, business processes, and it is changing marketing logistics as well.

One of the main tasks of marketing logistics is to create and develop a marketing information system for effective distribution, conduct market research, and organize information support for the movement of logistics flow in supply chains. The fulfillment of these tasks should be ensured by the information and communication component of marketing logistics, which is currently most affected by digitalization.

Digitalization of marketing logistics involves using digital technologies and implementing digital information and communication innovations to increase the flexibility and productivity of the company's marketing and logistics system.

Digitization of the company's business processes and marketing logistics, in particular, requires the introduction of a complex of information, computing and communication technologies [12].

In tough competitive conditions, digital innovations allow companies to automate many marketing logistics processes, reduce the number of managers' routine tasks, improve communication within the company due to the structuring and ordering of data, and reduce marketing logistics costs, i.e. gain competitive advantages.

However, digital innovations in marketing logistics are implemented somewhat slower than in other areas of activity, which is a significant risk not only for an individual company but for all its supply chain partners as well [13]. Some reasons are as follows [14]:

1) digitalization is perceived as unattainable;
2) lack of a digitalization strategy;
3) ack of technological awareness.

The success of digitalization of marketing logistics depends on the success of elimination of these causes by company management.

It should be noted that one of the most important factors of a company's success or failure is people and their decisions. Therefore, it is not enough for managers to offer digital innovations and equip the company's specialists with digital information and communication technologies of marketing logistics, they need to be trained to use all this in a high-quality way.

Informatization and digitalization change the conditions of professional activity of specialists, which leads to the need to combine different types of activities in professional activity. Therefore, the professional training of marketing logistics specialists should be based on an approach in which, in addition to economic and managerial issues, an important place in training will be given to technological and informational components [15]. Today, specialists who have not only a certain specialization with deep professional knowledge and abilities, but also an understanding of other key functions and the ability to perform them are considered to be effective [1]. The implementation of digital innovations and digital information and communication technologies in the management of marketing logistics processes of companies requires appropriately trained specialists.

4 KEY TRENDS OF MARKETING LOGISTICS DIGITALIZATION

Digital tools of marketing logistics in the field of marketing include the following ones: E-commerce; Internet platforms and aggregators; Internet advertising and search engine optimization; social media marketing, web promotion and brand reputation management in social networks and the Internet; big data, blockchain, and marketing analytics. In the field of logistics, electronic data interchange; satellite technologies; automated inventory and warehouse management systems; 3D printing; organization of deliveries by drones; unmanned deliveries; blockchain; big data, and logistics activity analytics can be used [10]. This list is not complete and is constantly updated.

Let's focus on the main modern trends in the use of digital marketing logistics tools (Figure 2):

- Electronic Data Interchange Technologies. They are able to quickly and effectively ensure the implementation of internal (within the company between departments and employees) and external document flow (with consumers, business partners and with government bodies). Modern electronic document management systems increase the efficiency of work processes and decision-making in the field of marketing logistics, provide a high level of data security, reduce data loss, and simplify document management. Walmart, one of the largest retail chains in the world, actively uses these technologies to optimize its logistics system. This includes integration with suppliers through the receipt of electronic orders, invoices, and delivery confirmations, rapid inventory updates through real-time data synchronization, reduced order processing times, and increased sustainability by significantly reducing paper usage, aligning with the company's sustainable development goals.
- Cloud Storage. These technologies allow data processing and storage due to convenient and free access to IT resources through the provider in remote access mode. Cloud Storage services are capable of covering the entire range of marketing logistics processes, e.g. demand research, customer search, resource procurement, goods delivery, customer settlements, after-sales service, reverse logistics, etc.

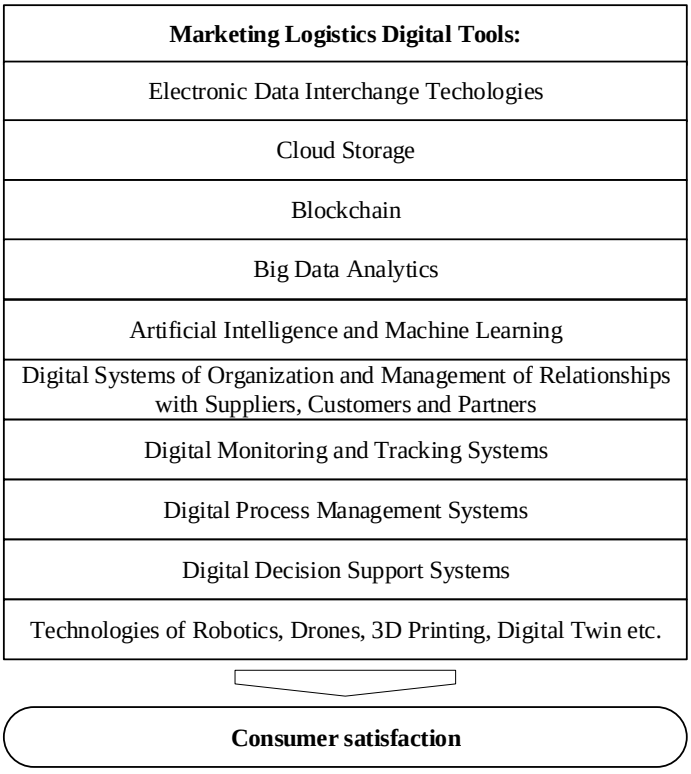

Figure 2: Marketing logistics digital tools.

- Blockchain. The implementation of blockchain technology makes it possible to store the required amount of data, protect it from illegal access, prevent the possibility of changing digital information about the process of movement of the logistics flow, and save the financial resources of all participants in logistics processes. Security, anonymity, and integrity of data without any third-party organization controlling transactions are the main aspects of the great popularity of blockchain technology in marketing logistics. Leading companies (CMA CGM, MSC Mediterranean Shipping Company, Hapag-Lloyd, and others) utilize blockchain-based freight platforms (such as TradeLens until 2023) to optimize and digitize global supply chains. These platforms address key logistics challenges, including lack of transparency, delays, and the complexity of coordination among multiple participants.
- Big Data Analytics. These technologies are actively used by companies when conducting marketing and logistics research, in particular, for collecting information, forming databases, processing and analyzing large data sets, forming forecasts and strategies for marketing and logistics activities. Big Data methods made the foundation for personalization systems that are widely used in almost any business today. Supply chain participants are also using big data to improve business performance, in particular, Big Data analysis to optimize the use of warehouse space, routes, and transport loading allows to reduce logistics costs.
- Artificial Intelligence and Machine Learning. Artificial intelligence technology is changing the field of marketing by providing a personalized experience to consumers. Artificial intelligence provides efficient analysis of large volumes of data and can help in accurately forecasting the demand for goods and services, which is important to prevent the formation of excessive or insufficient stocks of resources and finished products. Artificial intelligence is also used to automate logistics processes such as order processing, delivery tracking, route planning, etc. With Artificial Intelligence and machine learning, business analysts can quickly assess productivity, shipment speed, customer satisfaction and

other important variables. UPS leverages artificial intelligence to optimize delivery routes through its ORION platform, saving millions of liters of fuel. DHL uses machine learning for inventory management, demand forecasting, and parcel sorting.

- Digital Systems of Organization and Management of Relationships with Suppliers, Customers and Partners (Supplier Relationship Management Systems, Customer Relationship Management Systems, Partner Relationship Management Systems etc.). Digital systems integrated into the company's corporate information environment based on a single database are a crucial component of a modern business strategy. Such systems allow companies to improve interaction with consumers and partners through personalization. They also help organize work between consumers, performers, intermediaries, and other participants, find free freight carriers, calculate the cost of services, update current information about delivery times, control all orders, and remind managers about the need for their timely processing, etc.
- Digital Monitoring and Tracking Systems. In particular, the Internet of Things technology involves connecting physical devices to the Internet, which ensures the connection of the material world with the digital one. Smart devices (smartphones, laptops, tablets, computers, smart TVs, vehicles, smart home appliances, door locks, smart watches, heart and blood pressure monitors, fitness bracelets, etc.) use sensors and mechanisms to collect and data exchange with the environment and with each other. Such digital systems can collect more data about the target audience, data about consumers and their behavior, which makes it possible to create better products and services to meet their needs, successfully sell these products and services, and personalize marketing. The Internet of Things technology is widely used in logistics, allowing to improve the efficiency of processes and provide more accurate control over the movement of goods from the supplier to the final consumer. It is possible to monitor traffic, optimize routes, track the movement of goods in warehouses, control their location and condition, as well as automate the processes of picking and packing orders. For example, a sensor that is installed to control the temperature inside the car when transporting perishable products collects information and allows you to adjust the temperature automatically. Radio Frequency Identification systems allow tracking by using radio frequency to transmit information using tags (microchips) attached to physical objects. With their help, fast and clear tracking of where and how cargo is moved is carried out, acceptance and shipment are accelerated, and the level of transparency and reliability of operations is increased.
- Digital Process Management Systems and (Production Management Systems, Transportation Management Systems, Warehouse Management Systems, Inventory Management Systems etc.). These systems increase the efficiency of marketing logistics processes at various stages of the movement of the logistics flow, contribute to the optimization of supply chains, direct the company's orientation to demand and consumers, facilitate management decision-making, and improve communication between participants in business processes. DHL actively implements digital process management systems to optimize its operations. DHL utilizes the MySupplyChain system, which provides real-time transparency for all logistics operations, integrating processes from warehousing to delivery while minimizing human involvement.
- Digital Decision Support Systems. These information systems support business or organizational decision-making activities. They serve the level of management, operations and planning of the company and help to make decisions on the problems that can change quickly and are not easily defined in advance, i.e. unstructured and semi-structured decision-making problems in marketing logistics. The use of digital technologies and algorithms for data collection, processing and analysis allows effective management decisions to be made.
- Technologies of Robotics. Companies are actively implementing the robotization of production and warehouse logistics, which is a global trend caused by the need to speed up logistics processes. Robotic Process Automation is a tool for automating business processes, it is the technology that allows automating a large volume of tasks for marketing logistics.
- Drones. Drones allow them to create unique and engaging content, collect and analyze data

that will help them improve decision-making and optimize campaigns. For example, a drone can measure the traffic and attendance of a particular location and help determine the best time and place to display your ad. Drones can also track consumer reactions and emotions and help measure the effectiveness and return of your investments (ROI) in your promotional campaigns. Drones are becoming increasingly popular autonomous means of delivery, particularly in "last mile" logistics.

- 3D Printing. Thanks to the use of 3D printing technology, supply chains are becoming much faster, stable, and flexible. 3D printing allows almost any company to create devices or parts of devices, spare parts from various materials directly at consumers', eliminating the need for delivery. 3D-printing shortens the time of manufacturing objects and costs, expands the possibilities of consumers by bringing them closer to the desired products.
- Digital Twin. Digital twin can significantly increase the operational efficiency of marketing logistics processes, ensure a constant flow of operational data, collect product and packaging data, identify potential flaws and trends, develop products and experiment with changes in their layout without any risks. Logistics centers can create digital twins and use them to test different scenarios and improve operational efficiency. This technology can be used to provide real-time delivery information, which will improve delivery times and impact the efficiency of autonomous vehicles.

5 CONCLUSIONS

Marketing logistics is an effective management concept, and its digitalization is an integral component of modern economic development, which contributes to increasing the efficiency of companies and maintaining their competitiveness.

Companies continue to develop and create improved products and provide improved services, constantly implementing the latest digital methods and marketing logistics tools. They are approaching an innovative digital future, better satisfying the needs of consumers, creating the most convenient and effective marketing logistics systems.

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