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Theoretical Models and Concepts of Digitalization of Commercial Processes

Abstract

Digitalization of commercial processes represents the transition from traditional business models to digital and platform structures through the use of information and communication technologies. The main theoretical models, such as process, platform, and resource-information models, explain this process through the automation of business processes, the creation of electronic trading platforms, and the use of data as a strategic resource to improve customer offerings and optimize pricing.

In addition, the innovation-evolutionary concept considers digitalization as a gradual development based on technological innovation and changing consumer behavior. These approaches help companies create new business models, such as omnichannel sales and digital marketing, as well as evaluate the economic efficiency of digital solutions and strategically transform commercial activities in the digital economy.

Keywords: *Digitalization, commercial, electronic, digital*

Kommersiya proseslərinin rəqəmsallaşdırılması nəzəri modelləri və konsepsiyaları

Xülasə

Kommersiya proseslərinin rəqəmsallaşdırılması informasiya və kommunikasiya texnologiyalarından istifadə edərək ənənəvi biznes modellərindən rəqəmsal və platforma strukturlarına keçidi təmsil edir. Proses, platforma və resurs-informasiya modelləri kimi əsas nəzəri modellər bu prosesi biznes proseslərinin avtomatlaşdırılması, elektron ticarət platformalarının yaradılması və müştəri təkliflərini təkmilləşdirmək və qiymətləri optimallaşdırmaq üçün məlumatların strateji resurs kimi istifadəsi ilə izah edir.

Bundan əlavə, innovasiya-təkamül konsepsiyası rəqəmsallaşmanı texnoloji innovasiya və dəyişən istehlakçı davranışına əsaslanan addım-addım inkişaf kimi görür. Bu yanaşmalar şirkətlərə omnikanal satış və rəqəmsal marketinq kimi yeni biznes modelləri yaratmağa, eləcə də rəqəmsal həllərin səmərəliliyini qiymətləndirməyə və rəqəmsal iqtisadiyyatda kommersiya fəaliyyətlərini strateji cəhətdən dəyişdirməyə kömək edir.

Açar sözlər: *Rəqəmsallaşdırma, kommersiya, elektron, rəqəmsal*

Теоретические модели и концепции цифровизации коммерческих процессов

Резюме

Цифровизация коммерческих процессов представляет собой переход от традиционных бизнес-моделей к цифровым и платформенным структурам с использованием информационно-коммуникационных технологий. Основные теоретические модели, такие как процессная, платформенная и ресурсно-информационная, объясняют этот процесс через автоматизацию бизнес-процессов, создание электронных торговых платформ и использование данных как стратегического ресурса для улучшения клиентских предложений и оптимизации ценообразования.

Кроме того, инновационно-эволюционная концепция рассматривает цифровизацию как поэтапное развитие, основанное на технологических инновациях и изменении потребительского поведения. Эти подходы помогают компаниям создавать новые бизнес-модели, такие как омниканальные продажи и цифровой маркетинг, а также оценивать экономическую эффективность цифровых решений и стратегически трансформировать коммерческую деятельность в условиях цифровой экономики.

Ключевые слова: *Цифровизация, коммерческие, электронная, цифровая*

Introduction

In the modern era, globalization, the rapid development of information and communication technologies, and the intensification of the competitive environment have led to fundamental changes in the nature of commercial activity. In particular, the intensive implementation of digital technologies in economic relations has required the restructuring of mechanisms for organizing, managing, and implementing commercial processes. In this context, the digitalization of commercial activity acts not only as a technological innovation but also as a transformation of management approaches, business models, and market relations.

Within the context of digitalization, commercial processes become more flexible, transparent, and information-oriented. Traditional trade mechanisms are replaced by electronic platforms, automated systems, analytical tools, and digital communication channels, or integrated with them. As a result, enterprises gain the opportunity to more accurately identify customer needs, respond quickly to market changes, and use resources more efficiently.

The study of the scientific and theoretical foundations of these processes becomes possible through models and concepts explaining the digitalization of commercial activity. These theoretical approaches systematically explain the impact of digital technologies on the commercial value chain, the role of information as a strategic resource, the formation of platform-based economic relations, and the emergence of innovative business models.

Thus, this topic serves to understand the essence of the digital transformation of commercial activity, its economic and managerial mechanisms from a scientific perspective, as well as to justify the need for applying digital solutions in the modern business environment.

Analysis

Digitalization of commercial processes is one of the main factors creating structural and functional changes in the modern economic system. The analysis shows that this process is not limited to the application of technical tools, but also requires the restructuring of the conceptual foundations of planning, implementation, and control mechanisms in commercial activity [1]. Digital technologies transform the interaction of commercial entities with the internal and external environment into a more dynamic and information-oriented form [2].

A comparative analysis of theoretical models shows that the process-oriented approach focuses on increasing the operational efficiency of commercial activities. Within this model, digitalization serves to optimize the entire value chain rather than individual functions [3]. Automated procurement systems, digital logistics solutions, and electronic customer relationship management reduce commercial risks and create conditions for minimizing operational costs. However, the weakness of this model lies in the fact that it is more focused on improving existing processes than on strategic innovations [4].

The analysis of the platform concept reveals qualitative changes in the content of commercial processes. In this approach, digitalization creates new forms of interaction between market participants and transforms commercial activity into multifaceted ecosystems. The centralization of information flows through platforms, the formation of network effects, and the strengthening of economies of scale become the main sources of competitive advantages. At the same time, problems also arise, such as the concentration of market power in the hands of individual entities and the risk of small enterprises becoming dependent on platform models [5].

The analysis of the resource-information model shows that in the digital era information has become the main strategic resource of commercial activity. Analytical systems and big data processing allow enterprises to predict market behavior, create personalized offers, and make scientifically grounded decisions. The advantage of this model is the reduction of uncertainty in commercial activity; however, information security and ethical issues remain the main limitations in its application [6].

The analysis of the innovation-evolutionary approach explains the digitalization of commercial processes as a gradual and continuous development process. According to this model, digital transformation is formed through the interaction of technological innovations, consumer behavior, and the institutional environment.

Overall, the analysis shows that the theoretical models of digitalization of commercial processes complement one another, and their integrated application provides more effective results. Under modern conditions, the success of commercial enterprises depends not only on the application of technologies, but also on the alignment of these technologies with strategic goals, their integration into organizational culture, and coordination with human capital development [7].

Table 1. Theoretical Models of Digitalization of Commercial Processes

Model / Concept	Essence of the Model	Main Digitalization Tools	Advantages	Limitations
Process Model	Considers commercial activity as a set of interconnected business processes.	• ERP systems • CRM • Automation of procurement and logistics	• Cost reduction • Increased transparency and manageability of processes • Operational efficiency improvement	• Limited focus on strategic innovations • Mainly aimed at optimizing existing processes
Platform Concept	Based on the formation of digital trading platforms and ecosystems.	• Marketplaces • Digital payment systems • API integrations	• Network effects • Market expansion • Economies of scale • Multi-sided interaction between participants	• Concentration of market power • Dependence of small businesses on platform operators
Resource-Information Model	Considers data as a key strategic resource in commercial activity.	• Big Data • BI (Business Intelligence) systems • Analytics of consumer behavior	• Personalization of offers • Demand forecasting • Evidence-based decision making • Reduction of uncertainty	• Risks of cybersecurity • Data privacy and confidentiality issues • Ethical concerns in data usage
Innovation-Evolutionary Concept	Digitalization as a gradual and long-term development process.	• Digital business models • Omnichannel sales • E-commerce • Cloud technologies	• Flexibility and adaptability to change • Support for innovation and new business models • Sustainable development	• High investment requirements • Need for organizational change • Long implementation period

Source: compiled by the author.

The presented table reflects a systematized approach to the analysis of theoretical models of digitalization of commercial processes and makes it possible to identify their substantive and functional features. It demonstrates that each model focuses on different aspects of commercial activity and interprets the role of digital technologies in modern economic conditions in different ways.

The process-oriented model is aimed at optimizing internal business processes and increasing operational efficiency through the automation and integration of information systems. It ensures the transparency of commercial operations and contributes to cost reduction; however, it addresses issues of strategic transformation and the creation of new business models to a lesser extent [8].

The platform concept demonstrates the transition of commercial activity toward network and ecosystem forms of organization. Within this model, digital platforms act as a key tool for coordinating interactions among market participants, creating network effects and expanding market opportunities. At the same time, the dependence of commercial entities on platform owners increases, as does the risk of market power concentration [9].

The resource-information model emphasizes the strategic importance of data as a key factor of competitiveness. The use of analytical tools and large data sets makes it possible to predict demand more accurately and create personalized commercial offers. At the same time, issues of information protection and confidentiality become especially relevant [10].

The innovation-evolutionary concept considers digitalization as a continuous and gradual process of commercial system development. It reflects the long-term nature of digital transformation and its dependence on technological, institutional, and behavioral factors. Despite its high potential for sustainable development, this model requires significant investment and managerial resources [11].

Overall, the table shows that none of the presented models is universal, while their integrated and complementary application makes it possible to reveal the essence of digitalization of commercial processes more fully and increase the efficiency of commercial activity in the digital economy [12].

Conclusion

The analysis demonstrates that digitalization of commercial processes, being one of the main directions of modern economic development, creates profound changes in the organizational, technological, and managerial foundations of commercial activity. Digital transformation makes the activities of commercial entities more flexible, information-oriented, and customer-oriented, significantly increasing their competitiveness in the market.

A comparison of theoretical models proves that process-oriented, platform, resource-information, and innovation-evolutionary approaches explain the digitalization of commercial processes from different perspectives and complement one another. These models clearly determine the influence of digital technologies on operational efficiency, value chain optimization, transformation of market relations, and strategic decision-making.

As a result, successful digitalization in commercial activity should not be limited only to the application of technical innovations but should also be coordinated with such factors as strategic management, organizational culture, human capital development, and information security.

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