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## THE SYNERGETIC IMPACT OF ELECTRONIC AND QUICK COMMERCE ON THE FOOD INDUSTRY IN UKRAINE

### СИНЕРГЕТИЧНИЙ ВПЛИВ ЕЛЕКТРОННОЇ ТА ШВИДКОЇ КОМЕРЦІЇ НА ХАРЧОВУ ПРОМИСЛОВІСТЬ В УКРАЇНІ

**Abstract. Introduction.** The e-commerce market in the food industry requires adaptation and innovation, but constraints hinder the implementation of modern solutions. Investments, clear regulations, and new technologies are needed to ensure product quality and stimulate innovation. **Purpose.** The study aims to investigate the synergistic impact of e-commerce and quick commerce on the food industry in Ukraine and to determine future development prospects. **Methods.** The study involves the examination and analysis of scientific research and publications, an exploration of approaches to e-commerce and quick commerce, and an assessment of their impact on Ukraine's food industry. **Results.** The factors of development, results, the essence of the synergy between e-commerce and quick commerce in Ukraine's food industry, problems, solutions, and development prospects have been identified. **Conclusion.** E-commerce and quick commerce are transforming Ukraine's food industry, enhancing efficiency and consumer satisfaction. Sustainable growth in the sector requires innovations, improved logistics, and increased safety standards.

**Keywords:** food industry, electronic commerce, quick commerce, synergy, digitalization

**Анотація.** Постановка проблеми На ринку електронної та швидкої комерції у харчовій промисловості України є висока конкуренція, яка вимагає від компанії постійних інновацій та швидкої адаптації до змін. Низька доступність інфраструктури та технологічні обмеження ускладнюють впровадження сучасних рішень. Проблеми з доставкою харчових продуктів, зокрема їх якістю та свіжістю, також актуальні. Регуляторне середовище потребує удосконалення для стимулювання інновацій, безпеки та якості харчової продукції. Для вирішення цих проблем потрібні інфраструктурні інвестиції, чіткі регуляторні рамки, фінансова підтримка та розвиток нових технологій. Метою статті є дослідження синергетичного впливу електронної та швидкої комерції на харчову промисловість в Україні та визначення подальших перспектив розвитку. Методи дослідження: вивчення та аналіз наукових досліджень і публікацій, визначення підходів електронної та швидкої комерції, оцінка їх впливу на харчову промисловість України. Результати дослідження. Визначено фактори та результати розвитку електронної комерції в Україні, досліджено сутність моделей електронної та швидкої комерції харчової промисловості в Україні, проблеми їх синергії та шляхи вирішення, визначено подальші перспективи розвитку. Висновки. Результати проведеного дослідження вказують на те, що синергія електронної та швидкої комерції трансформуватиме харчову промисловість України. Інтеграція сучасних технологій підвищує ефективність операцій і задоволення споживачів. Успіх забезпечують інновації, ефективна логістика, орієнтація на клієнта та гнучкість бізнес-процесів. Для подальшого розвитку харчової промисловості в Україні під впливом синергії електронної та швидкої комерції необхідно створювати інноваційні продукти, підвищити увагу до сталого розвитку, розширювати ринки, інтегрувати технології віртуальної та доповненої реальності, розвивати технології доставки та ланцюгів постачання, підвищувати безпеку та якість продукції.

**Ключові слова:** харчова промисловість, електронна комерція, швидка комерція, синергія, цифровізація

**Problem statement.** The market for e-commerce and quick commerce in the food industry is highly competitive, compelling companies to constantly adapt and innovate to attract customers. However, in some regions, low availability of e-commerce infrastructure and technological limitations complicate the implementation of modern solutions. One of the key challenges in the food sector is the delivery of finished products, particularly maintaining their quality and freshness during transportation. Additionally, the regulatory environment needs improvement to encourage innovation, industry development, and ensure product safety and quality. Modern trends require a comprehensive approach to address these issues, including infrastructure investments, the development of clear regu-

latory frameworks, financial support, and the promotion of research and development of new technologies. Therefore, the synergy of e-commerce and quick commerce will not only help overcome existing challenges but also create conditions for further growth and improvement of the food industry in the context of the digitalization of the modern market.

**Analysis of recent research and publications.** The essence, characteristics, and development prospects of e-commerce and quick commerce have been studied in the works of the following national and international experts: Yevtushenko D.D. [1], Tovkun L.V., Perepelitsa M.O. [2], Fedyshyn I. B. [3], Odarchenko A. M., Spodar K. V. [4], Lueg P. [5], Bogdanova M. [6], Clarence-Smith L. [7].

**The purpose of the article.** The purpose of this work is to investigate the synergistic impact of e-commerce and quick commerce on the food industry in Ukraine and to address the challenges associated with the future development prospects of the synergy between e-commerce and quick commerce.

**Presentation of the main research material.** The current development of the food industry in Ukraine is occurring amidst the rapid growth of e-commerce and quick commerce (q-commerce). These forms of trade are not only transforming traditional business models but also creating new opportunities and challenges for food producers and distributors.

Let us examine the scientific approaches to defining the concepts of “e-commerce” and “quick commerce”.

The Law of Ukraine “On Electronic Commerce” considers e-commerce from a legal perspective, focusing on transactions and legal relationships that arise when using information and telecommunication systems [14]. This approach highlights e-commerce as a mechanism for creating, altering, or terminating rights and obligations, emphasizing legal and property aspects.

D.D. Yevtushenko defines e-commerce as a set of operations between a business and its counterparts aimed at automating business processes, with an emphasis on cost optimization and increasing economic efficiency [1, p. 187]. This approach focuses on business processes and their efficiency.

L.V. Tovkun and M.O. Perepelitsa [2, p. 179] propose considering e-commerce in narrow and broad senses. In the narrow sense, they emphasize online buying and selling, while in the broad sense, it involves entrepreneurial activities on the Internet, encompassing marketing, financial transactions, and other business aspects. This approach acknowledges the multifaceted nature of e-commerce.

I. B. Fedyshyn interprets e-commerce as a type of activity within the context of e-business, highlighting its connection to the broader e-business ecosystem [3]. This definition indicates e-commerce as part of a larger context.

A. M. Odarchenko and K. V. Spodar [4] emphasize that organizing demand on the Internet is crucial for e-commerce, regardless of the payment method. This approach focuses on the functional aspect of organizing processes. This is the broadest definition, covering all aspects of e-commerce, indicating the scale and flexibility of this concept.

Overall, each of the given definitions highlights different aspects of e-commerce. Some focus on legal aspects and property relations, while others on the automation of business processes. The differences between narrow and broad approaches demonstrate the flexibility of e-commerce, which can include specific processes as well as a wide range of economic activities. All these approaches emphasize the role of the Internet and information technologies in modern business.

Regarding the definition of quick commerce (q-commerce), Lueg P. highlights the focus on ultra-fast delivery, usually within an hour [5]. This approach originated in the food delivery sector and still generates most of the revenue in this segment. Lueg P. also notes that customers who need fast delivery are more likely to try new products and purchase from new places.

Bogdanova, M. describes q-commerce as a subdivision of e-commerce, focused on the quick and efficient delivery of goods to consumers [6]. She emphasizes that advanced technologies and logistical systems are used for this, allowing companies to deliver orders within hours or even minutes after placement. This is achieved through “dark”

stores, automated warehouses, real-time inventory management systems, and efficient last-mile delivery networks.

Clarence-Smith, L. emphasizes that q-commerce optimizes processes in the «last mile», where the speed of order fulfillment is a key factor [7]. In this approach, a significant part of economic parameters is determined by the speed with which companies can process and deliver orders.

In general, the identified authors focus on different aspects of q-commerce, such as delivery speed, logistics efficiency, last-mile process optimization, and the use of modern advanced technologies. What is common is that all these approaches highlight the innovative nature of q-commerce and its orientation towards meeting consumer needs in the shortest possible time.

Let's consider the factors of the development of e-commerce in Ukraine (Fig. 1).

As shown in the data in Fig. 1, several key factors are important for the development of e-commerce in Ukraine, covering political, economic, social, financial, institutional, and institutional spheres. Political stability and transparency in the operation of government bodies create a favorable environment for business and trust in it. It is important that the judicial system is effective and that legislation in the IT field is clear and conducive to innovation. At the economic level, the development of IT infrastructure and mobile communications is important, as this determines the quality and accessibility of electronic services. Economic stability, the level of competitiveness, and investment attractiveness also significantly influence the development of e-commerce. Successful e-commerce requires a developed banking system, a stable currency, and efficient payment systems, which are components of the financial sector. Social factors determine the demand for e-commerce, particularly through the income level of the population, its demographic composition, and territorial distribution. Here, the level of information and financial literacy of citizens is also important. Institutional factors, such as the level of corruption, the quality of government work, and the level of the shadow economy, can significantly impact trust in e-commerce.

Overall, for the successful development of e-commerce in Ukraine, it is necessary to improve these factors by creating a stable, transparent, and innovative environment that will foster trust and growth in online business.

Consider the results of the development of electronic commerce in Ukraine (Fig. 2).

According to the data in Fig. 2, the development of e-commerce in Ukraine has both positive and negative consequences for business entities, households, and the economy as a whole. Among the positive consequences for businesses are accelerated decision-making processes, increased competitiveness, market expansion, access to online resources, and the ability to borrow marketing and technological ideas. Additionally, e-commerce allows businesses to expand their product range without the need for physical space, contributes to reputation building, enhances business flexibility, enables better demand customization, and opens up new possibilities for monitoring customer behavior. However, there are negative consequences such as high dependence on information technologies, variability in internet quality and professional skills, and the necessity to ensure adequate levels of information security. Increased competition, dependence on logistics and payment systems, and a heightened level of fraud also pose significant obstacles to the development of e-commerce. For households, positive

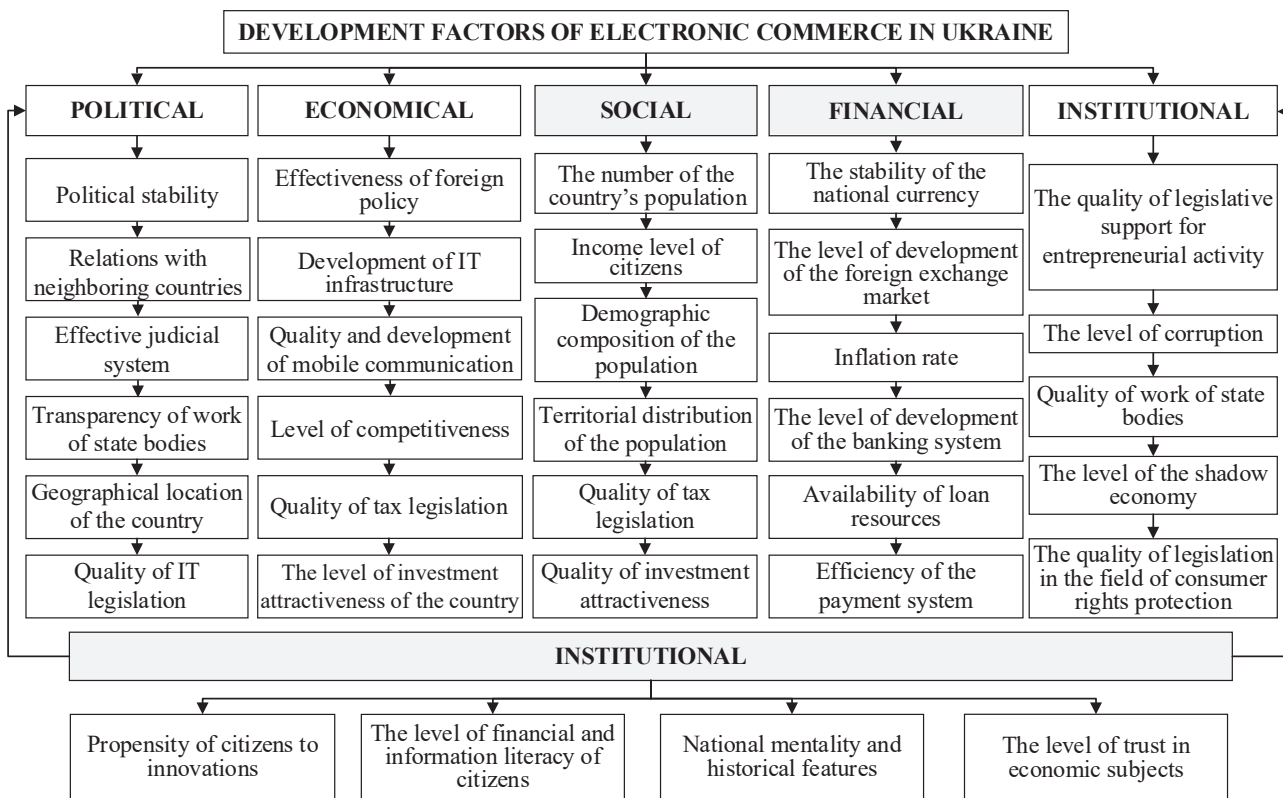


Figure 1. Factors of the development of e-commerce in Ukraine

Source: compiled by the author according to the data [1; 2; 3; 4]

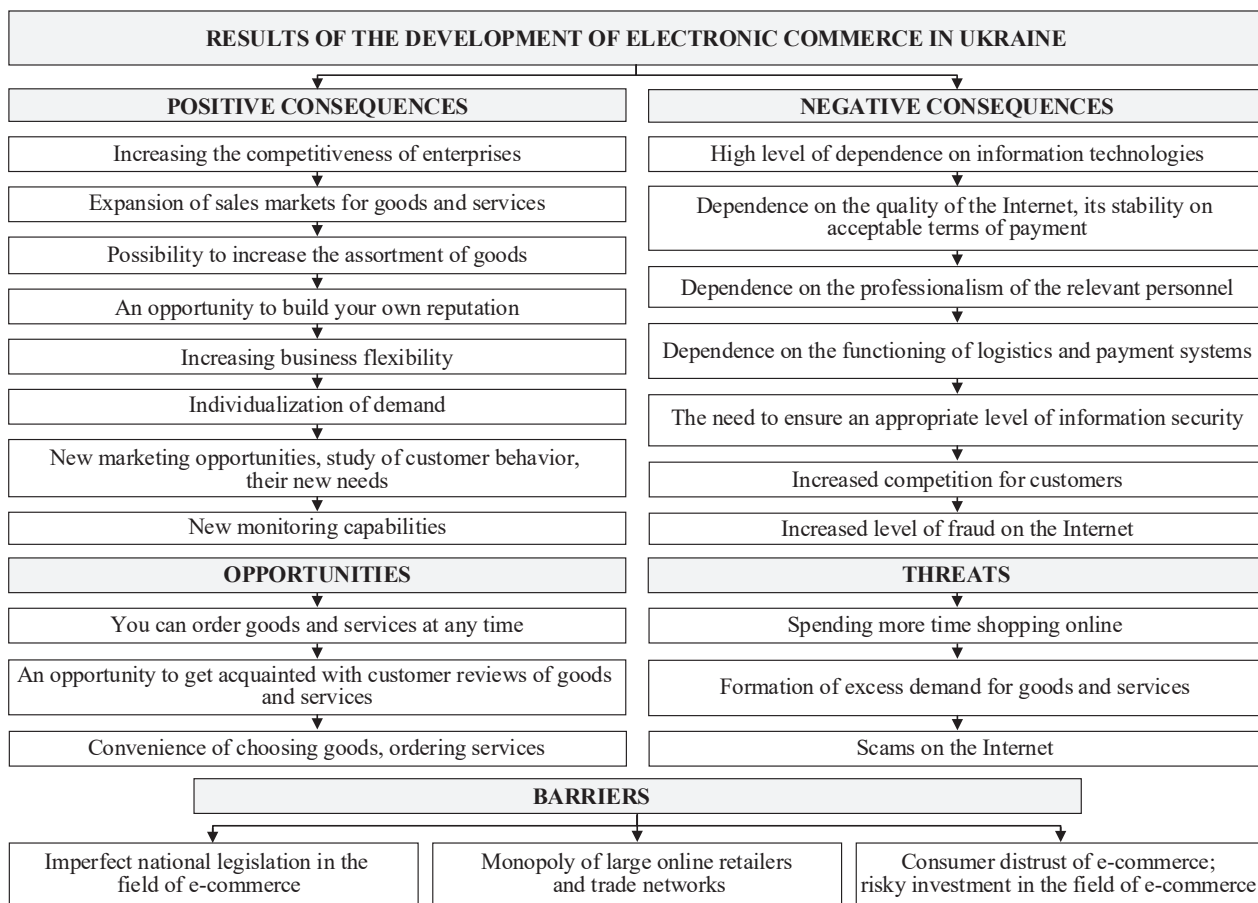


Figure 2. Results of the development of electronic commerce in Ukraine

Source: developed by the author based on the results of the research

consequences include an expanded range of goods, the ability to order goods and services at any time, skill enhancement through online education, time savings, convenience in choice, and the ability to review feedback from other buyers. However, new threats arise, such as excessive time spent on online shopping, the creation of unnecessary demand, the risk of fraud, and problems with personal data security. Among the main barriers to the development of e-commerce are imperfect national legislation, the monopoly of large online retailers, consumer distrust, and risky investments due to economic and political instability (Fig. 2).

Therefore, for further success in e-commerce in Ukraine, it is necessary to strike a balance between its advantages and challenges, work on improving the legal and infrastructural environment, and ensure security and trust.

Let's consider the essence of models of electronic and fast commerce of the food industry in Ukraine (Fig. 3).

As illustrated by the data in Figure 3, the synergy between electronic commerce (e-commerce) and quick commerce in Ukraine creates a powerful platform for business development in the online environment. E-commerce involves the buying and selling of goods over the Internet, allowing companies to expand their presence and attract new consumers.

Quick commerce, in turn, focuses on ultra-fast delivery of goods, which is critically important for food and beverages. The main mechanisms that ensure the effectiveness of this synergy include the development of customer service using online chats, personalized recommendations, production automation, and interactive tools to engage consumers. Supply chain management is based on the integration of suppliers, inventory management, and warehouse logistics automation. Optimizing websites and applications, mobile adaptation, improving UX/UI design, and search engine optimization (SEO) are crucial for ensuring

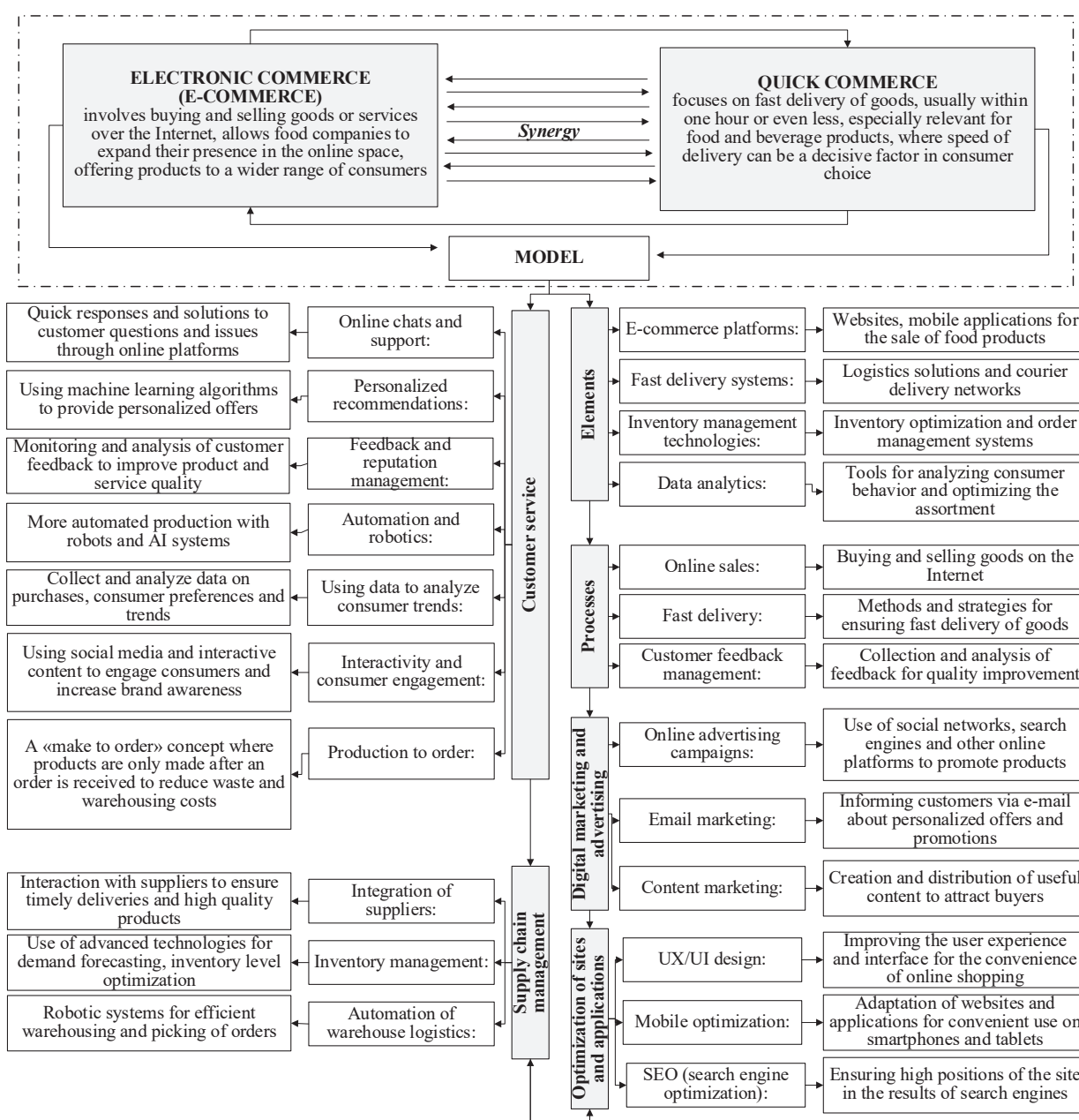


Figure 3. The essence of models of electronic and quick commerce of the food industry in Ukraine

Source: developed by the author based on the results of the research

the convenience of online shopping. Digital marketing and advertising through online campaigns, email marketing, and content marketing help promote products and increase sales. The processes of electronic and quick commerce include online sales, rapid delivery, and customer feedback management, which contribute to enhancing service quality. Elements such as e-commerce platforms, quick delivery systems, and inventory management technologies, along with data analytics, ensure the optimization of business operations and meeting consumer needs.

Analyzing the situation, one can conclude that the key factors for successful integration of electronic and quick commerce are innovative technologies, effective logistics management, customer orientation, and business process flexibility. This enables companies not only to meet modern market demands but also to compete actively at a global level. For the further development of electronic and quick commerce in Ukraine, it is necessary to focus on raising security standards, improving logistical solutions, and implementing new technologies such as artificial intelligence and blockchain. This will ensure greater consumer trust and sustainable industry growth.

Let's consider synergy of electronic and fast commerce of the food industry in Ukraine: development problems and ways to solve them (Fig. 4).

According to the data in Figure 4, the synergy between e-commerce and quick commerce in the food industry faces several challenges that need to be addressed for successful development. Firstly, data security and privacy issues are a concern due to the increased exchange of information in e-commerce. Consumers and companies seek to protect their personal data, which requires enhanced cybersecurity measures. Infrastructure and technological limitations are another significant challenge. In some regions, there is insufficient infrastructure to support e-commerce, and technological barriers can hinder the implementation of the latest solutions in the food industry.

Competition in the e-commerce and quick commerce market within the food industry is very high, forcing companies to constantly adapt and innovate to attract customers. Additionally, the development of new technologies necessitates updating legal frameworks and regulatory requirements in the areas of food safety, e-commerce, and information security. The quality and freshness of products

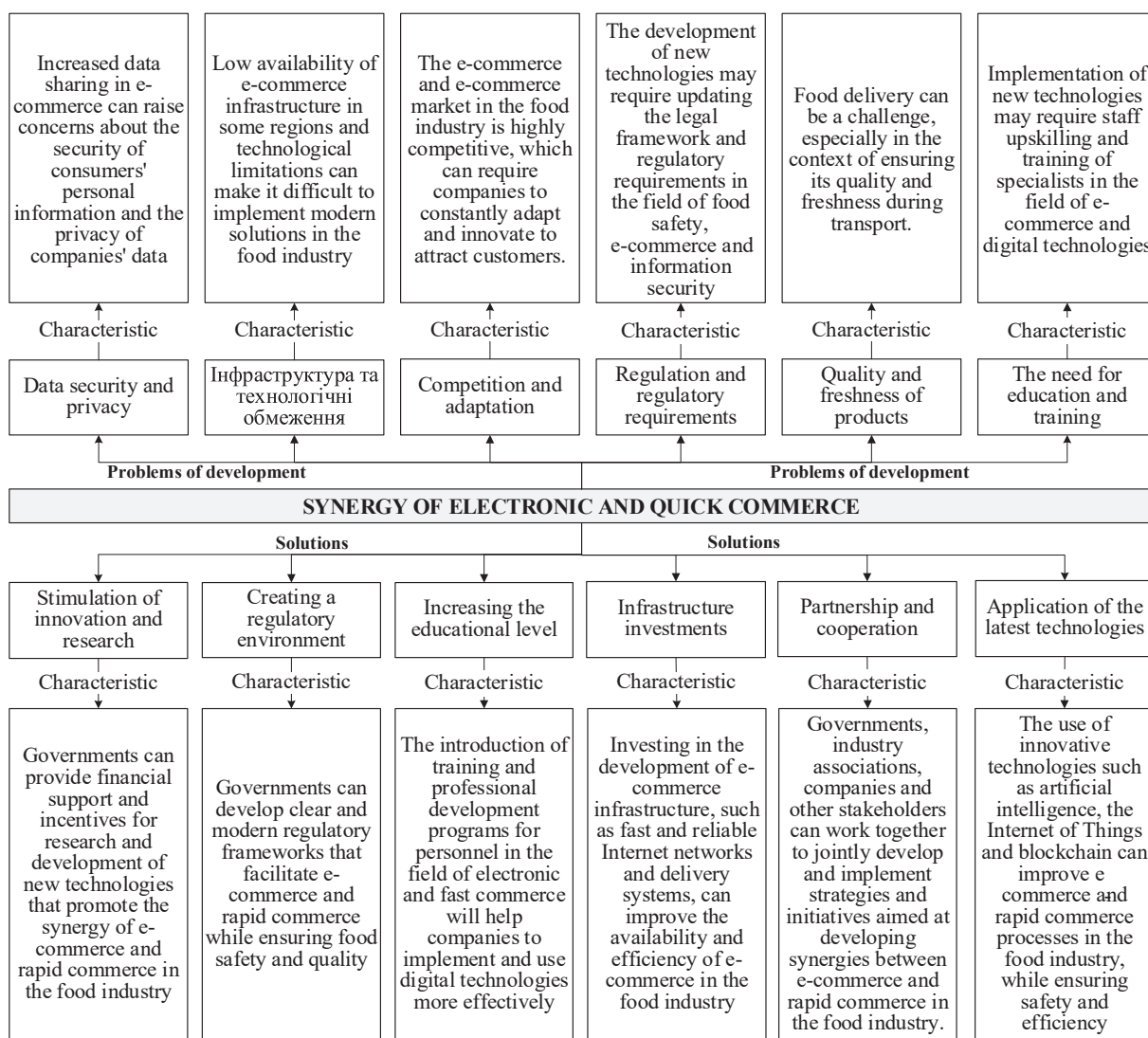


Figure 4. Synergy of electronic and fast commerce of the food industry in Ukraine: development problems and ways to solve them

Source: developed by the author based on the results of the research

during delivery are also important aspects, as consumers expect to receive products in proper condition. Implementing new technologies requires improving the skills of personnel and training specialists in e-commerce and digital technologies.

To address these issues, several solutions are proposed. Encouraging innovation and research through government support and financial incentives can promote the development of new technologies in the food industry. Developing clear and modern regulatory frameworks will help ensure the safety and quality of food products, as well as facilitate the growth of e-commerce and quick commerce. Introducing training programs and upskilling personnel will enable companies to effectively utilize digital technologies. Infrastructure investments, such as developing fast and reliable internet networks and delivery systems, can enhance the accessibility and efficiency of e-commerce and quick commerce in the food industry. Collaboration between governments, industry associations, companies, and other stakeholders is crucial for the successful implementation of strategies and initiatives aimed at developing the synergy of e-commerce and quick commerce. The use of innovative technologies, such as artificial intelligence, the Internet of Things, and blockchain, can improve e-commerce and quick commerce processes, ensuring security and efficiency.

Thus, to achieve success in the synergy of e-commerce and quick commerce in the food industry, it is necessary to address data security issues, develop infrastructure, adapt to high competition, update regulatory requirements, ensure product quality during delivery, and enhance personnel skills. Investments in new technologies, government support, and collaboration among all market participants are key factors for the successful development of this sector.

Let's consider the prospects for developing the synergy of electronic and quick commerce in the food industry of Ukraine (Fig. 5).

As shown by the data in Figure 5, the synergy between e-commerce and quick commerce in the food industry has prospects for further development due to several factors. Increased attention to sustainability drives companies toward environmentally responsible production and product supply. E-commerce and online ordering enable the expansion of global presence, penetrating new markets and attracting international customers. Advances in delivery technologies, particularly the use of drones and autonomous vehicles, will ensure even greater speed and efficiency. Modern technologies, such as blockchain, will enhance transparency in the supply chain, guaranteeing the quality and safety of products. The integration of virtual and augmented reality will help create unique consumer experiences. The use of artificial intelligence for data analysis will allow companies to offer personalized recommendations, taking into account individual consumer preferences. Finally, new technologies and culinary approaches will contribute to the creation of innovative products that meet the demand for healthy eating and sustainability. Therefore, the synergy between e-commerce and quick commerce has significant potential to transform the food industry in Ukraine, making it more efficient, innovative, and oriented towards the needs of modern consumers.

**Conclusions.** Based on the results of the conducted research, it can be concluded that the synergistic impact of e-commerce and quick commerce is relentlessly transforming Ukraine's food industry, despite certain development barriers. The integration of modern technologies into business processes not only enhances operational efficiency

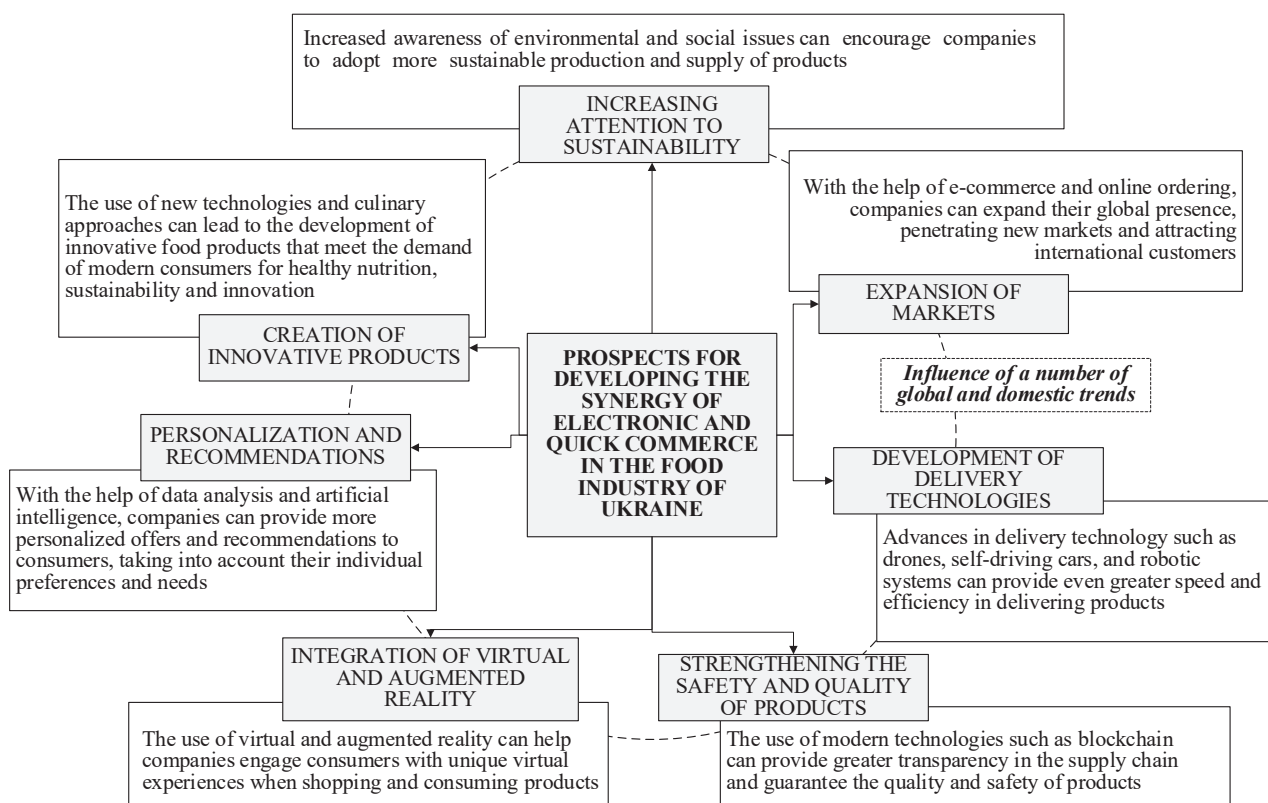


Figure 5. Prospects for developing the synergy of electronic and quick commerce in the food industry of Ukraine

Source: developed by the author based on the results of the research

but also ensures the satisfaction of consumer needs. The main factors for successful integration include the implementation of innovative technologies, effective logistics management, customer orientation, and business process flexibility. For the further development of the food industry in Ukraine under the influence of the synergy between

e-commerce and quick commerce, prospects have been identified in creating innovative products, increasing attention to sustainable development, market expansion, integrating virtual and augmented reality, developing delivery technologies and supply chains, and strengthening product safety and quality.

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