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FINANCIAL MECHANISMS FOR THE DEVELOPMENT OF E-COMMERCE IN THE CONTEXT OF GLOBAL DIGITAL TRANSFORMATION

Financial technologies are one of the key drivers of the evolution of e-commerce, ensuring its modernisation in the context of techno-globalisation processes. The current phase of global development is characterised by the large-scale digitalisation of the economic environment, which is transforming traditional approaches to doing business and communication between market participants. The most significant changes are observed in the e-commerce sector, which has undergone substantial changes in recent years under the influence of financial innovations. The use of modern financial solutions contributes to increased efficiency, convenience and security in the execution of financial transactions [1].

The interconnection between e-commerce and financial innovation is one of the key drivers of the modern digital economy. In the field of e-commerce, financial technology has a significant impact on the evolution of business models, simplifies financial transactions and helps to build trust among all market participants. Figure 1 shows the projected growth of the global financial technology market.

Analysing the data in Figure 1, the market size is expected to grow from US$253.4 billion in 2025 to US$938.7 billion in 2034, confirming the rapid spread of digital financial technologies both in the global economy and in e-commerce in particular.

The rapid development of financial technologies has led to the emergence of a large number of digital payment instruments, which are significantly transforming the financial infrastructure of international e-commerce. Mobile payment services have a significant impact on expanding access to e-commerce, as they enable fast and cost-effective transactions to be carried out directly via mobile devices. Such solutions promote financial inclusion and open up new opportunities for the development of e-commerce. Of particular importance are digital wallets, P2P lending and blockchain-based payment systems, which reduce dependence on the traditional banking sector.

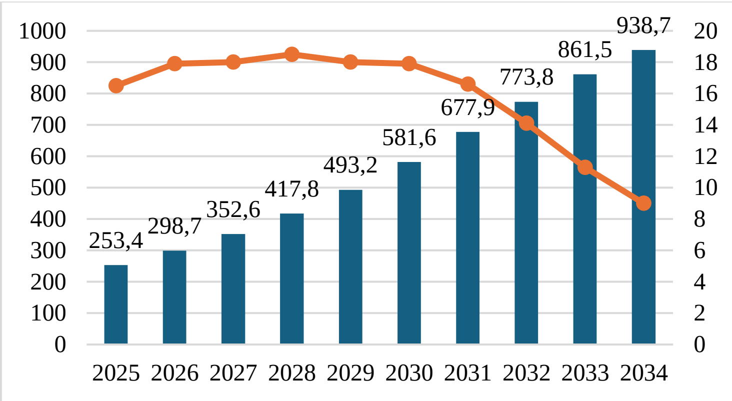

Figure 1. Forecast growth of the global financial technology market for the period 2025–2034, in billions of US dollars

Source: [2]

Among the most widespread digital payment tools are digital wallets, notably PayPal, Alipay and Apple Pay, which provide a simple, fast and secure mechanism for making payments, including international ones. Their use has become a significant milestone in the transformation of e-commerce, as they offer an effective alternative to traditional payment methods. Thanks to the ability to securely store payment details and make payments with a single click, digital wallets are particularly popular among mobile users. Furthermore, support for multiple currencies significantly facilitates cross-border financial transactions.

At the same time, cryptocurrencies and blockchain technologies have become key drivers of the modernisation of international e-commerce. Digital assets such as Bitcoin and Ethereum serve as alternative means of payment, enabling fast, decentralised transactions without the involvement of financial intermediaries. This, in turn, helps to reduce transaction costs and increase the transparency of financial processes. Furthermore, cryptocurrencies can serve as an alternative to traditional currency transactions, although their widespread use in e-commerce is still held back by high volatility and a lack of regulatory certainty [3].

The functional capabilities of blockchain technologies are not limited to payment transactions alone. Smart contracts, which automate the execution of agreements and ensure compliance with their terms, hold significant potential, as do distributed ledgers, which guarantee the secure and transparent maintenance of transaction records. The creation of an immutable digital trail for every transaction helps to speed up and secure financial processes, minimises the risk of fraud, reduces the number of chargebacks and simplifies record-keeping, which often acts as a barrier to international trade [4]. The benefits of implementing blockchain are particularly significant for developing countries, where traditional banking infrastructure remains underdeveloped.

One of the most promising areas for the development of the financial infrastructure of international e-commerce is central bank digital currencies. Their use could help reduce currency exchange costs, speed up transactions and expand financial inclusion through the introduction of a universal digital currency that would potentially be recognised on a global scale. Figure 2 therefore illustrates the financial mechanism for the development of e-commerce.

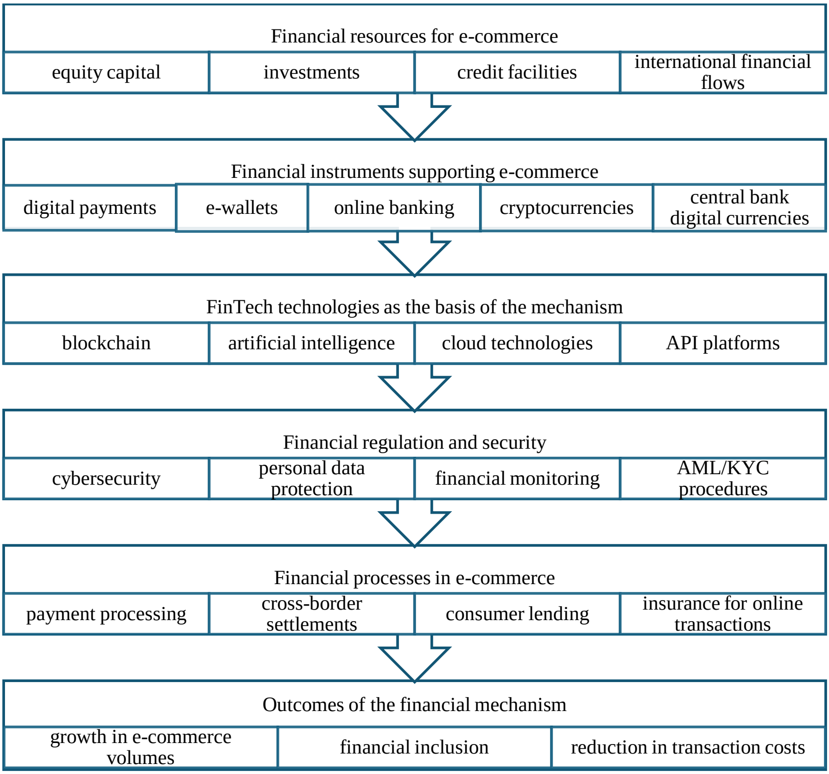

Figure 2. Diagram of the financial mechanism for the development of e-commerce

Source: compiled by the author

When analysing Figure 2, it should be noted that the effective functioning of e-commerce is based on the comprehensive interaction of financial resources, digital payment instruments, FinTech technologies, regulatory mechanisms and financial processes. The implementation of modern financial solutions enhances the speed, security and accessibility of electronic transactions, promotes the development of international trade and expands financial inclusion. Consequently, this leads to growth in e-commerce volumes, a reduction in transaction costs and an increase in the efficiency of the digital economy as a whole.

The analysis conducted indicates that financial technologies are creating new opportunities for the global development of e-commerce. They ensure a higher level of transparency and security in financial transactions, facilitate the automation of transaction processing and reduce the risk of fraud, which is particularly important in the international trading environment. Furthermore, the use of modern digital solutions enables the creation of personalised recommendations for consumers, the forecasting of market demand, and the improvement of mechanisms to combat financial crime, thereby significantly enhancing the security of e-commerce.

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