



DOI 10.36074/grail-of-science.05.07.2024.007

E-COMMERCE IN UKRAINE IN CONDITIONS OF MILITARY CONFLICT

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Summary. *The article discusses the profound impact of the ongoing war in Ukraine on its e-commerce sector, focusing on how the conflict has disrupted business operations and supply chains. It states that Ukraine's e-commerce was flourishing before the war, driven by digital adoption and supportive government policies. The article studies the severe challenges posed by the conflict, including reduced consumer demand, increased cyber threats, and logistical hurdles. Despite these obstacles, it highlights the resilience of Ukrainian businesses, which have adapted through digital innovation and international support. The article also explores strategies for future growth, emphasizing the need for enhanced digital infrastructure, cybersecurity, and global market integration to sustain and rebuild the sector.*

Key words: *e-commerce; military conflict; cybersecurity; economic resilience; digital adaptation; consumer behavior.*

Introduction. The ongoing war in Ukraine has had profound impacts on various sectors, including e-commerce, which is being significantly affected. The aim of the article is to get deeper into the complexities of how the conflict has reshaped the process of online business operations in Ukraine, examining both the challenges and adaptive strategies employed by businesses.

Research results. Prior to the war, Ukraine's e-commerce sector was flourishing, marked by significant growth and advancement. The nation was swiftly adopting digital technologies, with increasing internet access and an expanding middle class fueling the rise of online shopping. E-commerce platforms in Ukraine such as Rozetka, Prom.ua, and OLX were highly successful, offering a diverse range of products and services to consumers throughout the country. This sector was known for its competitive pricing, extensive product selection, and the convenience of online transactions. The top e-commerce players in Ukraine are represented by major marketplaces: OLX.ua – 40 % of all online orders, Rozetka.com.ua – 32.5 %, Prom.ua -26.5 % [9].

A major factor contributing to this growth was the widespread adoption of smartphones and digital payment methods, which significantly enhanced the accessibility and convenience of online shopping for consumers [1]. The Ukrainian government bolstered the digital economy by enacting policies that eased online

business operations, such as streamlining tax procedures and upgrading internet infrastructure. This favorable environment drew substantial investment from both local and international investors, further accelerating the expansion of the country's e-commerce sector.

However, the e-commerce sector in Ukraine, which had seen robust growth prior to the conflict, now faces unprecedented challenges due to the war [6]. The immediate consequence was a severe interruption of supply chains, with crucial infrastructure such as roads, bridges, and warehouses being damaged or rendered inaccessible. Increased shipping costs and logistical hurdles are among the primary issues affecting businesses. The conflict has exacerbated pre-existing vulnerabilities in global supply chains, leading to prolonged delivery times and increased costs for raw materials and finished goods.

This disruption caused major delays in the delivery of goods and escalated logistics and transportation costs. Many e-commerce companies struggled to maintain their inventory levels due to interruptions in both local and international supply chains.

Immediately following the invasion, Ukrainian e-commerce came to a standstill. Revenues dropped by 87% as an estimated 5 million people fled the country. The war forced a staggering half of Ukrainian businesses to shut down completely, while the rest were forced to operate far below capacity [4].

The conflict also led to a significant drop in consumer demand, as economic instability and the displacement of millions of people reduced disposable incomes and shifted priorities toward essential goods and services. Many consumers became more cautious with their spending, focusing on necessities rather than discretionary items. This shift in consumer behavior negatively impacted the sales volumes of e-commerce platforms, especially those specializing in non-essential products.

The practical e-commerce lines out some impacts of war, the main of which are the following: supply chain disruption, shipping surcharges, consumer demand, borrowing costs, product stockpiling [6].

Additionally, the heightened risk of cyberattacks during the war presented a significant challenge for e-commerce businesses. With digital infrastructure under threat, the necessity to secure online transactions and protect customer data became paramount. As a result, e-commerce companies had to make substantial investments in cybersecurity measures to safeguard their operations and maintain consumer trust. According to experts, Monobank, a leading online bank in Ukraine, is among the top targets for cyberattacks in the country [8].

Furthermore, Monobank's experience underscores the broader trend of increasing cyber threats targeting Ukrainian financial institutions during the conflict. The bank has had to implement advanced security protocols and launch initiatives like bug bounty programs to identify and address potential vulnerabilities proactively.

So, the war has not only disrupted physical supply chains but also escalated cyber threats, compelling e-commerce businesses in Ukraine to bolster their cybersecurity efforts significantly to protect their operations and customer data.

Despite these obstacles, Ukrainian businesses have shown extraordinary resilience. Numerous companies have adapted their strategies to continue



operations during these challenging times. Moreover, the Ukrainian e-commerce market is projected to reach \$4.4 billion in revenue by 2024, with a compound annual growth rate (CAGR) of 6.6% from 2024 to 2028 [5]. This growth highlights the resilience and adaptability of the sector in the face of adversity. For example, the use of digital technologies has been crucial in maintaining business activities. E-commerce platforms and payment systems have been essential in ensuring business continuity. Meanwhile, local delivery services such as Nova Poshta and Ukrposhta have diversified their logistics methods and incorporated advanced tracking technologies to adapt to the new environment.

NP Shopping, a service offered by Nova Poshta, has become a vital part of the e-commerce landscape in Ukraine, especially during the challenging times brought on by the ongoing conflict. NP Shopping plays a significant role in Ukrainian e-commerce through several key features. Firstly, it enhances international shopping accessibility by providing customers with virtual addresses in countries such as the USA, Italy, and the UK. These virtual addresses enable Ukrainian shoppers to buy items from global online stores that do not offer direct shipping to Ukraine. Furthermore, NP Shopping ensures reliable and secure delivery of these purchased goods to Ukraine, thereby expanding the range of available products for consumers beyond local markets.

The service offers a user-friendly process that simplifies international shopping into five steps: registering on NP Shopping, obtaining a virtual international address, using this address for online shopping, managing the shipment, and ultimately receiving the order in Ukraine. This streamlined process has made international shopping both accessible and convenient for a large number of Ukrainians.

Additionally, NP Shopping supports purchases from major international e-commerce platforms, thereby allowing Ukrainian customers to access exclusive brands and limited collections from popular online stores such as AliExpress, Amazon, and eBay.

NP Shopping has continued to adapt its logistics to overcome challenges posed by the war, maintaining a dominant market position with 85% of the parcel shipment volume. This includes leveraging cross-border transit through neighboring countries to manage the influx of international parcels.

The leading categories in Ukrainian e-commerce include electronics (27%), fashion (26%), furniture and appliances (20%), toys and DIY (15%), and food and personal care (12%). This diverse range underscores the broad appeal and utility of e-commerce platforms in Ukraine [2].

International support and collaboration have also been crucial in helping Ukrainian businesses navigate these turbulent times, underscoring the significance of global solidarity in sustaining the e-commerce sector.

Financial aid from the European Union and the International Monetary Fund has been instrumental in stabilizing the economy and supporting businesses. These organizations have provided substantial aid packages, including grants and loans, to help companies maintain their operations and recover from the disruptions caused by the war. This financial support has been crucial in enabling Ukrainian businesses to navigate the economic challenges brought about by the conflict. Revenue is expected to show a compound annual growth rate (CAGR 2024-2028) of 6.6%, resulting in a projected market volume of US\$5,712.4 million by 2028 [11].



Despite the ongoing war, foreign direct investment (FDI) in Ukraine has seen a significant increase. In the second quarter of 2023, the National Bank of Ukraine reported a notable surge in FDI, amounting to \$629 million. This influx of investment reflects growing international confidence in the resilience of the Ukrainian economy and its e-commerce sector. The increase in FDI highlights the belief of global investors in the long-term potential and recovery prospects of Ukraine's digital marketplace.

Technological and logistical support have also played critical roles in sustaining e-commerce activities. Global E-Commerce Logistics explores the complexities of managing the worldwide supply chain in the era of digital commerce [7]. To counter frequent internet outages, companies like Nova Poshta have equipped their branches with StarLink terminals, ensuring uninterrupted internet access for efficient customer service and business operations. This technological assistance has been vital in maintaining the continuity of business activities amidst the infrastructural challenges posed by the war [11].

Cybersecurity has become a major focus due to the heightened risk of cyberattacks during the conflict. International cybersecurity firms have provided their expertise and tools to help Ukrainian businesses safeguard their operations. For instance, Monobank has launched bug bounty programs to identify and address potential security vulnerabilities. These programs incentivize ethical hackers to find and report security flaws, thereby enhancing the bank's defenses against cyber threats. This proactive approach to cybersecurity has been essential in maintaining consumer trust and ensuring the safety of online transactions.

Logistical support has been essential in maintaining the flow of goods into Ukraine despite the disruptions caused by the war. Initially, the shutdown of air transport and overland routes complicated cross-border commerce, but assistance from neighboring countries like Poland has facilitated parcel transit, ensuring deliveries continue.

Companies like AliExpress have resumed shipping to Ukraine by utilizing these transit routes to meet the increasing demand. Additionally, international partnerships have significantly contributed to rebuilding damaged infrastructure, focusing on restoring critical components such as roads, bridges, and warehouses. These collaborative efforts have been crucial for the smooth operation of e-commerce logistics, helping to stabilize the sector during these challenging times.

Also, international e-commerce platforms have played a significant role in facilitating market access for Ukrainian businesses. Platforms like Etsy, eBay, and Amazon have provided opportunities for Ukrainian sellers to reach global customers, helping sustain their operations despite local challenges. By enabling these businesses to access a broader market, these platforms have been instrumental in maintaining sales and revenue during the difficult times brought on by the conflict.

The idea that nations can be branded emerged at the beginning of the 21st century [7]. This kind of work uses advertising, public relations and marketing techniques to boost countries' international reputations. Campaigns are often timed to coincide with major sporting, cultural or political events. *Made with Bravery* campaign, initiated by the Ukrainian government, has been particularly effective in



promoting Ukrainian products internationally. Promotional campaigns have also been crucial in supporting Ukrainian businesses on the global stage. This campaign encourages international consumers to support Ukrainian businesses, fostering a sense of global solidarity and boosting the visibility of Ukrainian goods in the global marketplace. These efforts have collectively helped stabilize and sustain the e-commerce sector in Ukraine amidst ongoing challenges. Additionally, the *Made with Bravery* campaign has been featured in various formats such as online videos, social media posts, and merchandise like T-shirts and stickers, further spreading its message. This multi-faceted approach has encouraged international consumers to support Ukrainian businesses, fostering a sense of global solidarity. Through these efforts, the campaign has successfully turned the notion of bravery into a powerful symbol that supports both the Ukrainian economy and its international image.

To improve the e-commerce sector, Ukrainian businesses can draw inspiration from successful international practices and implement several strategic actions.

Enhancing digital infrastructure is a critical first step. Businesses should prioritize upgrading their digital platforms and payment systems, incorporating advanced features like AI for personalized shopping experiences, chatbots for customer service, and secure payment gateways to build consumer trust. For example, Amazon has set a benchmark in using AI and machine learning to enhance customer experience.

Strengthening cybersecurity is another essential measure. With the increased risk of cyberattacks, investing in robust cybersecurity measures is crucial. This involves regular security audits, implementing advanced encryption methods, and educating employees about cyber threats.

Improving supply chain and logistics is also vital. Forming partnerships with international and local logistics companies to ensure efficient and reliable delivery services is essential. Leveraging technologies like GPS tracking and route optimization can improve delivery times and customer satisfaction. Amazon's logistics network and its use of technology for real-time tracking and delivery optimization can be emulated by Ukrainian businesses to enhance their logistics capabilities.

Implementing effective marketing strategies is crucial for boosting online visibility and customer engagement. Investing in comprehensive digital marketing strategies, including social media marketing, search engine optimization (SEO), and content marketing, can significantly enhance online presence.

Focusing on customer experience by ensuring that e-commerce websites are user-friendly, mobile-optimized, and easy to navigate can greatly improve customer retention. Shopify's emphasis on creating seamless, user-friendly e-commerce platforms has helped many businesses succeed online.

Adopting sustainable practices can attract environmentally conscious consumers. Incorporating eco-friendly practices into business operations, such as using sustainable packaging, reducing carbon footprints, and promoting sustainable products, can appeal to a growing segment of environmentally aware consumers.

Conclusion. The e-commerce sector in Ukraine has faced unprecedented challenges due to the war, but it has also demonstrated remarkable resilience and

adaptability. Through financial aid, technological and logistical support, and international collaborations, Ukrainian businesses have managed to navigate these turbulent times and sustain their operations. The continued support and solidarity from the global community will be crucial in helping Ukraine rebuild and grow its e-commerce sector in the future, turning adversity into an opportunity for innovation and strength.

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ЕЛЕКТРОННА КОМЕРЦІЯ В УКРАЇНІ В УМОВАХ ВІЙСЬКОВОГО КОНФЛІКТУ

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Анотація. Стаття присвячена проблемам впливу триваючої війни в Україні на сектор електронної комерції, з акцентом на те, як конфлікт порушив бізнес-операції та ланцюги постачання. У статті зазначається, що електронна комерція в Україні процвітала до війни, завдяки цифровій трансформації та сприятливій державній політиці. Досліджуються серйозні виклики, викликані конфліктом, включаючи зниження споживчого попиту, збільшення кіберзагроз та логістичні проблеми. Незважаючи на ці перешкоди, підкреслюється стійкість українських підприємств, які адаптувалися через цифрові інновації та міжнародну підтримку. Також розглядаються стратегії для майбутнього зростання, наголошуючи на необхідності покращення цифрової інфраструктури, кібербезпеки та інтеграції в глобальні ринки для підтримки та відновлення сектора.

Ключові слова: електронна комерція; військовий конфлікт; кібербезпека; економічна стійкість; цифрова адаптація; поведінка покупця.