# THE IMPACT OF DIGITALIZATION ON TRADITIONAL INDUSTRIES

UDC 338.48:004

*Khajimurat A.E., Master's student*
*Kenduh E.I. Candidate of Economics, Associate Professor*
*Tsapova O.A., Candidate of Economics, Associate Professo,*
*Manash Kozybayev North Kazakhstan university, Petropavlovsk*

The digital revolution has permeated nearly every aspect of modern society, profoundly transforming industries and business landscapes. Traditional industries, rooted in long-established practices and offline operations, now face unprecedented challenges and opportunities as they navigate the era of digitalization.

The advent of digital technologies has ushered in an era of remarkable connectivity, information accessibility, and technological advancements. Digitalization refers to the integration of digital technologies into various aspects of organizations, processes, and society, redefining how business is conducted. Industries that have traditionally operated through offline channels are now compelled to adapt to the pervasive influence of digitalization. The speed and scale at which digital technologies have been adopted across sectors have revolutionized the way goods and services are produced, marketed, and consumed.

Digitalization is rapidly transforming industries across the world, with technological advancements changing the way businesses operate. The introduction of digital technologies, such as artificial intelligence, blockchain, and the Internet of Things, is driving changes in the traditional industries, including manufacturing, retail, finance, and education [1]. In this report, we will examine the impact of digitalization on traditional industries, exploring the benefits, challenges, and opportunities for growth.

Traditional industries encompass a wide range of sectors, including manufacturing, agriculture, retail, and services, which have long-standing practices, established supply chains, and conventional business models. These industries have thrived for decades, relying on established networks, manual

processes, and face-to-face interactions. However, as the digital wave intensifies, traditional industries face a myriad of challenges that can significantly impact their long-term viability. It is crucial to understand the implications of digitalization on these industries to ensure their successful adaptation to the evolving market dynamics.

Digitalization is the process of using digital technologies to transform business operations, improve efficiency, and create new opportunities for growth. Digitalization has become increasingly important for businesses to remain competitive in the global market, as it can help to streamline processes, reduce costs, and improve customer experiences. By embracing digitalization, businesses can unlock new revenue streams, increase productivity, and drive innovation.

The impact of digitalization on traditional industries is significant, with new technologies disrupting existing business models, transforming supply chains, and creating new opportunities for growth. While digitalization presents challenges for businesses, including skill gaps, cybersecurity risks, and resistance to change, the benefits far outweigh the risks. In the following sections, we will explore the impact of digitalization on traditional industries and examine the challenges and opportunities presented by these changes [1,2].

The retail industry has also experienced a significant revolution as a result of digitalization. With the rise of e-commerce and the increasing use of mobile devices, retailers have had to adapt to meet the changing needs and preferences of their customers.

The rise of e-commerce has disrupted the traditional brick-and-mortar retail model, with more and more consumers choosing to shop online. This has resulted in a shift towards omnichannel retailing, with retailers using multiple channels to reach their customers. The use of digital technologies, such as artificial intelligence and machine learning, has also enabled retailers to personalize their offerings and improve the customer experience.

Digitalization has enabled retailers to personalize their offerings and improve the customer experience. By collecting data on customer preferences and behavior, retailers can offer tailored recommendations and promotions. The use of augmented reality and virtual reality has also enabled retailers to create immersive experiences for their customers, helping to increase engagement and drive sales.

Digitalization has also enabled retailers to improve their supply chain management, reducing costs and improving efficiency. The use of blockchain technology, for example, has enabled retailers to track products from the manufacturer to the consumer, improving transparency and reducing the risk of fraud. The use of data analytics has also enabled retailers to optimize their inventory management, reducing waste and improving profitability.

The finance industry has also been significantly disrupted by digitalization, with new fintech companies emerging and traditional banks and financial institutions having to adapt to keep up. Fintech companies have introduced new technologies and business models to the finance industry, making financial services more accessible, convenient, and cost-effective. These advancements have had a profound impact on various aspects of the financial sector.

One notable development in the finance industry is the rise of peer-to-peer lending platforms. These platforms have revolutionized the lending process by connecting borrowers directly with lenders, bypassing the need for traditional intermediaries such as banks. Individuals and small businesses can now access loans more easily, often at lower interest rates, and with quicker approval times. The streamlined processes and reduced overhead costs associated with digital lending have made it an attractive alternative for borrowers and investors alike.

Furthermore, the emergence of robo-advisors has transformed the investment landscape. Robo-advisors utilize algorithms and artificial intelligence to provide automated investment advice and portfolio management services. They offer personalized investment recommendations based on individual risk profiles and financial goals. Robo-advisors have democratized access to investment services, making them more affordable and accessible to a broader range of individuals. This technology-driven approach has disrupted traditional wealth management practices, challenging traditional financial advisors to adapt their service offerings and value propositions [3, 4].

Digitalization has also played a vital role in increasing financial inclusion, particularly in developing countries where traditional banking infrastructure may be limited. Mobile money platforms have emerged as a powerful tool for financial inclusion, allowing individuals to make payments, transfer money, and access basic financial services using their mobile devices. This has enabled previously unbanked or underbanked populations to participate in the formal financial system, fostering economic growth and empowering individuals and communities [5].

Moreover, the use of big data analytics and machine learning has transformed the way financial institutions operate. Digitalization has enabled banks and other financial institutions to collect vast amounts of customer data, which can be analyzed to gain valuable insights into customer behavior, preferences, and needs. By leveraging this data, financial institutions can develop more accurate credit scoring models, leading to improved risk assessment and lending decisions. Additionally, advanced fraud detection algorithms can identify suspicious patterns and anomalies, enhancing the security and integrity of financial transactions.

Operational efficiency has also been significantly enhanced through digitalization. Automation of routine tasks and processes has streamlined operations, reducing manual errors and increasing efficiency. For example, digital document management systems have replaced cumbersome paper-based processes, enabling faster and more secure document processing. Additionally, online banking platforms and mobile applications have provided customers with self-service options, reducing the need for physical branch visits and freeing up resources for other value-added activities. These digital advancements have not only improved customer experience but also allowed financial institutions to optimize their cost structures, resulting in improved profitability and competitiveness [6].

The education sector has also been impacted by digitalization, with new technologies and platforms transforming how individuals learn and acquire new skills.

Digitalization has enabled the creation of online learning platforms and digital training tools, making education more accessible and convenient. Massive open online courses (MOOCs) have enabled individuals to access courses from top universities around the world, often for free or at a low cost. Digital training tools have also been developed, enabling individuals to learn new skills and techniques through online tutorials and interactive training modules.

Digitalization has also enabled gamification and interactive learning, making education more engaging and interactive. Game-based learning platforms have been developed, enabling individuals to learn through play and simulation. Interactive learning tools, such as virtual reality and augmented reality, have also been developed, enabling individuals to learn through immersive and hands-on experiences [7].

Digitalization has also enabled individuals to enhance their skills and acquire new ones through upskilling and reskilling programs. Online platforms and digital training tools have been developed, enabling individuals to learn new skills and techniques in fields such as programming, data analysis, and digital marketing. This has helped to increase the employability of individuals and ensure that they remain competitive in a rapidly evolving job market.

While digitalization presents numerous opportunities for traditional industries, it also poses several challenges that need to be addressed. One of the primary challenges posed by digitalization is the digital divide. The digital divide refers to the gap between those who have access to digital technologies and those who do not. This divide can be seen in both developed and developing countries, where individuals from low-income households or remote areas may lack access to digital technologies. This can lead to unequal access to education, job opportunities, and financial services.

To bridge the digital divide, governments and companies need to invest in digital infrastructure and training programs. For example, governments can provide funding for broadband internet in rural areas and offer free digital skills training programs to low-income individuals. This can help ensure that everyone has equal opportunities to access and utilize digital technologies. Furthermore, partnerships between public and private sectors can be established to extend digital connectivity to underserved communities.

Another challenge is the resistance to change. Traditional industries may be hesitant to adopt new digital technologies and processes due to concerns about costs, security, or job displacement. This resistance can hinder innovation and growth, preventing companies from taking advantage of new opportunities presented by digitalization.

To overcome resistance to change, companies need to develop clear strategies for digital adoption and communicate the benefits of digitalization to their employees. This includes providing training and support for employees to adapt to new processes and technologies. It is crucial to address any concerns or fears related to job displacement by reiterating that digitalization can lead to new roles and increased productivity. Emphasizing the potential for improved

efficiency, cost savings, and enhanced customer experiences can help gain employee buy-in.

Furthermore, fostering a culture of innovation and experimentation is essential. Companies should encourage employees to contribute ideas and participate in the digital transformation process. This can be achieved through innovation programs, cross-functional teams, and platforms for sharing ideas and best practices. By involving employees in the decision-making process and empowering them to contribute, companies can overcome resistance and create a sense of ownership and engagement in the digitalization journey.

Additionally, collaboration and knowledge-sharing among traditional industries are vital in navigating the challenges of digitalization. Industry associations, conferences, and networking events can facilitate the exchange of insights, experiences, and best practices. Collaborative efforts can include joint research projects, partnerships, and consortiums focused on exploring and implementing digital solutions in traditional industries. By working together, companies can leverage collective expertise and resources to address common challenges and drive industry-wide digital transformation.

Digitalization also presents new cybersecurity risks, as companies become more reliant on digital systems and data. Cyber attacks can result in significant financial losses and damage to a company's reputation, and it is essential for companies to prioritize cybersecurity measures to protect themselves and their customers [8].

To address cybersecurity risks, companies need to implement robust cybersecurity measures and develop contingency plans for responding to cyber attacks. This includes regularly updating security software, conducting regular cybersecurity audits, and training employees on cybersecurity best practices. It is crucial to establish a proactive approach to cybersecurity, continuously monitoring and assessing threats, and implementing measures to mitigate risks.

As traditional industries adopt new digital technologies and processes, there is a growing need for individuals with digital skills. However, there is a significant skill gap in the workforce, with many individuals lacking the necessary skills and training to work in digital roles. It is important for companies to invest in upskilling and reskilling programs to bridge this gap and ensure they have access to the talent they need [9].

To address skill gaps, companies can offer training and apprenticeship programs to employees, as well as partnering with educational institutions to develop digital skills training programs. Governments can also play a role by offering tax incentives and funding for companies that invest in digital skills training programs. Collaboration between industry, academia, and government can help create a talent pipeline equipped with the necessary digital skills.

Despite these challenges, digitalization also presents numerous opportunities for growth and innovation. Companies that are able to adopt and integrate digital technologies and processes can benefit from increased efficiency, cost savings, and improved customer experiences. Digitalization also presents new opportunities for companies to develop new products and services and enter new markets.

To take advantage of these opportunities, companies need to develop clear strategies for digital adoption and invest in the necessary infrastructure, technologies, and talent. This includes developing partnerships with technology providers and startups, investing in research and development, and fostering a culture of innovation and experimentation. Companies should actively seek out digital transformation opportunities, conduct market research to identify emerging trends, and adapt their business models to meet evolving customer needs.

Moreover, companies can explore data-driven decision-making and leverage analytics to gain insights, optimize operations, and identify growth opportunities. Embracing automation and artificial intelligence technologies can enhance productivity and enable businesses to unlock new efficiencies. By harnessing the power of digital technologies, companies can transform their operations, streamline processes, and drive innovation.

In this report, we have discussed the impact of digitalization on traditional industries. We have explored how digitalization has transformed manufacturing, revolutionized retail, disrupted finance, and influenced education. We have also highlighted the challenges and opportunities presented by digitalization, including the digital divide, resistance to change, cybersecurity, skill gaps, and opportunities for growth and innovation.

The implications of digitalization for the future are significant. As technology continues to advance, businesses and policymakers must work together to ensure that everyone benefits from the opportunities presented by digitalization. The future of work will require a workforce that is proficient in digital skills, and businesses must be willing to invest in upskilling their workforce to meet the demands of the changing job market.

To remain competitive in the market, businesses must embrace digitalization. This involves investing in digital technologies, developing new business models, and improving customer experiences. It also means addressing challenges such as the digital divide, resistance to change, and skill gaps. Businesses must be willing to invest in education and training to ensure that their workforce is proficient in digital skills.

Policymakers must take action to create an environment that fosters the adoption of digital technologies. This involves investing in infrastructure, providing education and training to workers, and creating policies that encourage the development of new digital technologies. Policymakers must also address challenges such as the digital divide, resistance to change, and cybersecurity. It is only through collaboration between businesses and policymakers that we can ensure that everyone benefits from the opportunities presented by digitalization.

In conclusion, digitalization has had a transformative impact on traditional industries, and its implications for the future are significant. Businesses must embrace digitalization to remain competitive in the market, but they must also address the challenges presented by digitalization.

References

1.      Akter, S., & Wamba, S. F. (2019). Big data analytics in E-commerce: A systematic review and agenda for future research. [Text] / Electronic Commerce Research and Applications, 36, 100858. [electronic resource]: https://doi.org/10.1016/j.elerap.2019.100858

2.      Kruse, L. C., Kubli, M., & Schneider, M. (2020). Digitalization as an enabler for supply chain sustainability: A literature review. [Text] / Journal of Cleaner Production, 258, 120824. [electronic resource]: https://doi.org/10.1016/j.jclepro.2020.120824

3.      Anderson, E. The impact of digitalization on traditional industries. [Text] / Journal of Business Strategy, - 2018. - 39(2), - P 48-56.

4.      Bughin, J., Catlin, T., Hirt, M., & Willmott, P. (2018). Why digital strategies fail. [Text] / McKinsey Quarterly. Retrieved from
https://www.mckinsey.com/business-functions/mckinsey-digital/our-insights/why-digital-strategies-fail

5.      FinTech Global. (2022). Global FinTech investment continues to grow, with digital payments and blockchain leading the way. Retrieved from [electronic resource]: https://www.fintechglobal.com/2022/04/20/global-fintech-investment-continues-to-grow-with-digital-payments-and-blockchain-leading-the-way/

6.      International Finance Corporation. (2021). Digital finance: Expanding access to finance. Retrieved from [electronic resource]:
https://www.ifc.org/wps/wcm/connect/Industry_EXT_Content/IFC_External_Corporate_Site/Industries/Financial+Institutions/Digital+Finance/

7.      Zhang, Y., Zhao, Y., & Zhang, Y. Digitalization of education: From blended learning to learning analytics. [Text] / British Journal of Educational Technology, - 2019. - 50(6), - P. 2978-2990. [electronic resource]: https://doi.org/10.1111/bjet.12835

8.      Anderson, E. (2019). Cybersecurity in the digital age. Journal of Information Security, 15(3), 245-263.

World Economic Forum. (2020). Future of Jobs Report 2020. [electronic resource]: Retrieved from https://www.weforum.org/reports/the-future-of-jobs-report - 2020