



FUTURITY
OF SOCIAL SCIENCE

DOI: <https://doi.org/10.57125/FS.2023.12.20.05>

How to cite: Zaitsev, S. (2023). Using Digital Tools to Increase the Competitiveness of Small Businesses (Experience of Full-Service Bakeries). *Futurity of Social Sciences*, 1(4), 75-90.
<https://doi.org/10.57125/FS.2023.12.20.05>

Using Digital Tools to Increase the Competitiveness of Small Businesses (Experience of Full-Service Bakeries)

Sergei Zaitsev

MSc in Management, London Chamber of Commerce and Industry (LCCI), London, United Kingdom, <https://orcid.org/0009-0009-5643-9606>

Correspondence email: *sergo-1@mail.ru*.

Received: September 22, 2023 | **Accepted:** December 16, 2023 | **Published:** December 20, 2023

Abstract: Small businesses play an extremely important role in the economies of modern developed countries, and today only those companies that are able to respond quickly to the demands of the external environment and use available resources rationally can remain competitive. The use of digital technologies can contribute to solving the issue of rational use of resources and rapid adaptation to the external environment. The purpose of the study is to identify potential opportunities for using digital tools to increase the competitiveness of small businesses with a focus on full-service bakeries. To achieve this goal, efforts should be focused on achieving the following objectives: to define the essence and importance of small business for the economy; to outline the possibilities of introducing digital tools in the development of small business; to specify the prospects for using digital tools to increase the competitiveness of full-service bakeries. As a result of the study, the importance and role of small business for the economy is determined. It is proved that full-cycle bakeries, as representatives of small businesses, have ample opportunities to use various digital tools to improve their operations and increase their competitiveness in the long term. The study also specifies the tasks that can be solved by digital tools, provided that they are

implemented in the activities of bakeries, indicating the specifics of using certain tools. In addition, the prospects and possibilities of using specific digital tools for full-cycle bakeries are determined. It is substantiated that for full-cycle bakeries today there is a significant number of digital tools that can be implemented to improve the production process, to control employees, to optimize the procurement of raw materials and supplies, to improve customer service and to focus on the specific needs and demands of target audiences. Digital tools also help create the preconditions for scaling up the business and promoting it both domestically and internationally.

Keywords: digital technologies, innovation, competitiveness development, potential, product promotion, customer focus.

Introduction

Revolutionary changes in such areas as information technology, robotics, microelectronics, and telecommunications have given rise to a relatively new and important phenomenon - the digital economy. The commonly accepted understanding of the digital economy is associated with the analysis of economic activity based on digital technologies, in which the key factor of production is data in digital (electronic) form.

The basis for the formation of the digital economy is the process of digitalisation of the economy and society, which involves the massive introduction and adoption of digital technologies, leading to the socio-economic transformation of society. The digitalisation process is gradually covering various areas of economic activity and involves a significant number of entities, including small businesses.

The process of digitalisation as the basis for the transition to a digital economy is driven by the requirements of objective reality and is based primarily on the use of digital technologies in the activities of its subjects. Digital technologies lead to changes in the forms of organisation of economic activity, complicate the essence of phenomena, and modify them.

The pandemic has significantly boosted small businesses in terms of implementing various digital technologies. Many companies have significantly increased their sales and improved their competitive position by using e-commerce, and a new format of companies without a physical location has emerged to serve customers. Thus, one of the most powerful trends in digitalisation is the creation of digital channels for receiving orders. This includes a website, mobile app, chatbots for taking orders, etc. These tools are also actively used by businesses focused on baking bread, including full-service bakeries.

Recently, the digital economy has been a priority area in various countries, as evidenced by the existence of government programmes and strategies aimed at developing and promoting digital technologies. Digitalisation has reached all business entities. The introduction and development of digital technologies leads to the transformation of markets, which undoubtedly requires entrepreneurs to rethink their business models and identify new business development prospects. The theoretical analysis of the digitalisation of the economy allows us to highlight the following aspects of this problem: 1) searching for new opportunities for more effective interaction of existing businesses with customers, partners, suppliers, and other stakeholders through the use of digital technologies; 2) identifying new areas of business activity. Addressing these issues is relevant for small businesses, as they are an important element in the structure of any economy and perform important socio-economic functions.

Research Problem

The main problem of the study can be defined as the need to weigh up all the opportunities, prospects, and challenges of introducing modern digital tools into the system of development and management of small business, in particular, in terms of ensuring competitiveness. Attention should be focused on full-cycle bakeries, which have peculiarities of both the production process and the establishment of communication with consumers, which should be taken into account when forming the concept of increasing competitiveness.

Research Focus

The study should focus on digital tools for promoting bakeries' products and determine which of these tools can be used without restrictions and which should be implemented with certain conditions and specifics in mind.

Research Aim and Research Questions

Given the extreme relevance of the research topic, it is logical to specify the goal, which will be to identify potential opportunities for using digital tools to increase the competitiveness of small businesses with a focus on full-service bakeries.

To achieve this goal, you should focus your efforts on the following tasks:

- define the nature and importance of small business for the Ukrainian economy;
- to outline the possibilities of implementing digital tools in small business development;
- to specify the prospects for using digital tools to increase the competitiveness of full-service bakeries.

Literature review

The new realities of post-pandemic social life have challenged small and medium-sized businesses around the world. In 2020, the number of small businesses decreased by 9%, driven by entrepreneurs who were unable to adapt to the environment and were not prepared for the challenges posed by the pandemic (Bika et al., 2022). Those small businesses that saw their salvation in digitalisation and were able to use innovative technologies to ensure their competitiveness and sustainable development managed to hold on to their positions.

Bread and bakery products are a specific industry because the products have a short shelf life and it is almost impossible to organise a production process with fully remote access. As a result, demand for products has declined during the pandemic, and new tools for attracting customers need to be used to further develop. It is through the use of modern digital technologies that small businesses can now ensure their competitiveness and develop their existing potential.

According to the European Commission (Digital Economy and Society Index 2022, 2023), the use of digital technologies increases the productivity of any company by 25% on average. It is not only about using complex information systems but also about introducing the Internet of Things, artificial intelligence, mobile applications, and other modern technologies.

In general, the introduction of digital technologies into small business processes has been taking place over the past 10-15 years (Soltovski et al., 2022; Srhoj et al., 2021; Yalcin et al., 2022). With the development of the Internet and the IT industry, companies are looking for new tools to improve the quality of customer service and optimise operations.

The pandemic has stimulated a sharp shift towards the digitisation of information and management methods. The benefits of smart devices, automatic data processing, interactive interaction with the audience, and other IT solutions for business have become apparent (Chen & Chan, 2022; Hryhorash et al., 2022; Kholiavko et al., 2021). Consumers have become accustomed to more active use of smartphones and remote ordering and purchasing tools, so small businesses need to increasingly provide consumers with the opportunity to make purchases in the way that is most convenient for them in order to create additional creditworthiness conditions for themselves.

Digitalisation issues are attracting more and more attention from the scientific community, and the issue is moving from the field of view of technical specialists to the sphere of interest of economists, sociologists, financiers, and others (Aleksieienko et al., 2020; Bertoni et al., 2019; Chen et al., 2020). Accordingly, digitalisation today is not only a matter of technology but also a matter of ensuring economic development.

Digitalisation is the introduction of the latest IT technologies into the existing business management model, optimisation of processes, and scaling of development areas. Any company that has certain characteristics, including the following, can be considered digitalised:

- uses a variety of data processing tools in its work (Coad & Srhoj, 2019; Ionescu et al., 2023);
- has an established local or cloud-based structure for information exchange and storage (Fedyshyn et al., 2019; Liu et al., 2022);
- introduces modern IT solutions and equipment (Kulkarni & Ghosh, 2021; Vidgen et al., 2017);
- uses specialised software to automate production processes, supplies, and sales (Kholiavko et al., 2021);
- has in-house or outsourced IT specialists (Vives, 2019; Zhang, 2020).

Digitalisation in general is the basic stage of digital technology implementation, and digital transformation is the next stage of business change. IT development means a complete transformation of the internal management structure using the technologies of the future, including the possibility of using:

- machine learning (Wach, 2020; Zhou et al., 2021);
- of virtual and augmented reality (Buss et al., 2021; Cai et al., 2022; Xu et al., 2020);
- artificial intelligence (Srimulyani & Hermanto, 2021; Tulchynska et al., 2021; Zhang & Chen, 2020);
- virtual assistants (Dubyna et al., 2021; Hurzhyi et al., 2022);
- robotic assistants and bots (Kontokosta & Hong, 2021; Lucato et al., 2019).

If implemented correctly and in a balanced manner, digital tools can completely change the way we do business and communicate with customers.

Large corporations hire specialised staff to implement new methods, ranging from the head of the transformation to data analysts. Small and medium-sized businesses can use off-the-shelf solutions such as integrated management systems, mobile applications, marketplaces, business process analysis, and management.

Automation and computerisation of the workplace can also be considered as digitalisation tools (Krylov et al., 2022). In today's environment, traditional workplace equipment with computers and office equipment is no longer enough. There must be mobility, the ability to work remotely,

quickly exchange information with colleagues, and automate routines. To improve the efficiency of employees, companies are introducing:

- integrated into the internal structure of virtual assistants;
- corporate messengers;
- software for process automation.

Information services for modern small businesses allow them to quickly adapt to new work formats, retain their audience, and remain competitive. This approach gives the company resilience and flexibility in the face of rapid progress and changing external circumstances.

Digital transformation leads to fundamental changes in companies, a complete restructuring of the internal business culture, and approaches to communication with customers. Researcher Martin A. (2022) believes that the introduction of IT tools has a positive impact on employee productivity and initiative. The pace of technology development suggests that in the next few years, all areas will be transformed, and smart devices will become part of everyday life.

Materials and methods

General Background

The introduction of various digital tools in the development of small businesses ensures a more efficient redistribution of resources, profitability, risks, liquidity, and information in order to obtain additional profit from such redistribution. The emergence and active implementation of digital tools can be considered one of the trends in the development of small businesses in the international economic environment in the current environment. The process of introducing the latest technologies has been accompanied by the active development of the digital sphere and the improvement of technological processes, so they are usually combined and complement each other.

Accordingly, the issue of introducing digital tools into the management system of small enterprises and developing their competitiveness is so complex and multifaceted that it requires in-depth analysis and the use of a wide range of methods.

The research instrumentarium is formed under the influence of the need to determine the peculiarities of small business development, to take into account the specifics of full-cycle bakeries, based on which the research is carried out, as well as to specify a set of digital tools that can be used to obtain positive results in ensuring the competitiveness of enterprises. Accordingly, to obtain a systematic result, the methods of analysis, synthesis, systematisation, generalisation, and grouping were used.

Using the method of systematisation and generalisation, the reasons for slowing down the digital development of small enterprises are identified. The application of the methods of analysis and grouping allowed to form a list of tasks that can be solved by digital tools, provided they are implemented in the activities of full-cycle bakeries.

The participants of the study and those interested in obtaining the results are not only digital tools implementation specialists who use information development tools for small business development, but also business owners who can understand the importance of using modern digital technologies, as well as entrepreneurs who plan to start their own business in the field of baking bread and bakery products.

Results

Entrepreneurship is an independent risk-based activity carried out by persons who have been registered by the state in accordance with the procedure established by law, aimed at generating profit from the use of property, production, sale of goods (performance of work or provision of services) (Criscuolo et al., 2019). Small and medium-sized enterprises are flexible and adaptive to external and internal factors of development, which is considered especially relevant in an unstable external environment. One of these factors is the impact of the introduction of digital tools in the small business development system.

Small and medium-sized businesses are one of the most common types of entrepreneurial activity. Business development in an increasingly competitive environment requires the use of innovative technologies to help overcome the effects of the negative impact of the external environment and adapt to rapid changes. Since the use of digital technologies is increasingly associated with an unstable external environment, the VUCA system is often used to determine the conditions of modern instability (Fig. 1).

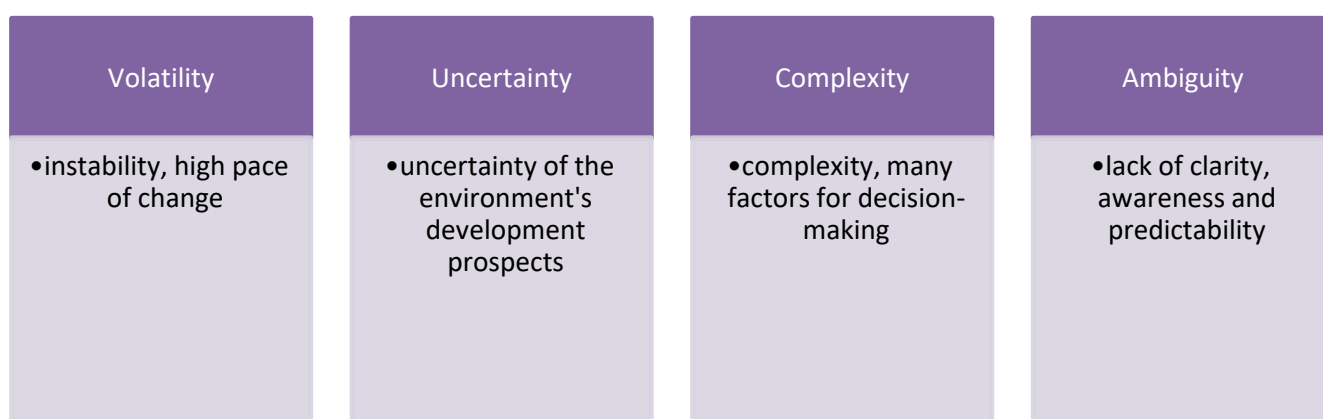


Figure 1. The VUCA system as a reflection of the uncertainty of the external environment for small businesses

Source: Compiled by the author based on (Oneshko & Pashchuk, 2021; Popelo et al., 2021)

Systematising the potential negative impacts from the external environment will allow for a more accurate understanding of what digital tools may be needed to improve the creditworthiness of the enterprise (Bakirtas & Akpolat, 2020). In general, entrepreneurs are willing to implement the simplest digital tools. However, they do not have the budget for more complex and efficient systems, so lack of funding is a key challenge to the full digitalisation of small businesses. Another challenge to digitalisation is the lack of human resources. Businesses may not have enough staff to take on the work of introducing new technologies and training colleagues to use them correctly and effectively.

At the same time, supply chain management, financial forecasting, automated production - all of these can be digitised and automated with the help of intelligent solutions and tools (Wang Suzhen et al., 2020). Their goal is to minimise human involvement wherever possible and increase business efficiency through data-driven approaches. New data allows us to establish cause and effect relationships, test hypotheses, and find new business model values - helping small businesses to quickly adapt to the demands of a rapidly changing environment.

However, the digitalisation of small businesses faces numerous challenges that slow down development and create additional crises in companies that differ from large enterprises and

corporations. Table 1 summarises the reasons for slowing down the digital development of small businesses.

Table 1. Summarising the reasons for the slowdown in the digital development of small businesses

The reason for the slowdown in the digital development of small businesses	Description
Lack of an effective management system	Without an effective management system, small businesses face problems in organising business processes, accounting, and data analysis, controlling financial performance, and managing personnel. This leads to inefficient use of resources, loss of customers, and stagnation in development
Insufficient presence in the online environment limits the company's potential	In general, small businesses are much closer to the end consumer than large corporations. However, not everyone appreciates the importance of, or is not actively using, SEO optimisation, e-commerce, social media and influencers, media channels, and bots, etc.
Limited opportunities for scaling	Lack of funding and competent staff can be an obstacle to implementing new technologies, launching new products, or opening new branches, and thus to growth and development
Vulnerability of companies' cybersecurity and technological failures	The most vulnerable component of information systems for small businesses is cybersecurity. The liability for fraudulent actions here is less than in the case of hacking the software of a large organisation. Therefore, implementing security measures that are in line with the company's growth and development prevents unforeseen failures and reduces the likelihood of downtime
Sales downturns	Changes in consumer behaviour, rising prices for components and raw materials, and inflation may be the reasons for the decline in sales. In a situation of uncertainty, both consumers and entrepreneurs have a shrinking planning horizon: the former postpone major purchases and reconsider their priorities, while the latter find it more difficult to attract investors and build business strategies. Accordingly, there is a need for more sophisticated tools for planning production and sales volumes
Lack of opportunities for large investments, large custom implementations, or testing of innovative digital tools	Small companies often develop according to the start-up model, which prioritises speed, accuracy, and precision in decision-making. That's why small businesses choose only the necessary software and applications for specific business tasks

Source: Compiled by the author based on (Reardon et al., 2023; Sermuksnyte-Alesiuniene et al., 2021; Srhoj & Walde, 2020)

The creation of trading platforms, an effective management system, the development of an online presence, and the automation of business processes allow small businesses to increase their

competitiveness and expand their markets. Accordingly, today it is difficult to imagine the development of small businesses without digitalisation tools.

If we move on to a more detailed consideration of full-service bakeries as objects of digitalisation, they have certain specifics and peculiarities of operation. In general, full-service bakeries (FSBs) do not use sophisticated digital solutions, despite the fact that managers are aware that they need to develop to remain competitive in the market and in demand among customers.

Bakery is a very customer-focused business, so it is important to take consumer expectations into account, in particular, it is important to understand that consumers are used to online communication and expect that interaction with their favourite bread or speciality bakery producers will follow the same scenario - remotely on their smartphones and in offline stores. Online communication is important for placing individual orders, receiving feedback, and understanding consumer needs and tastes.

Therefore, the PPC should focus on creating conditions for the introduction of digital tools that will help solve a number of key issues (Table 2).

Table 2. Tasks that can be solved by digital tools if they are implemented in the activities of the CCP

Digital tool	A problem that can be solved	Example of application in well-known international companies
Sales and orders through websites and digital marketing	1. A business's online presence, such as listing in online directories, using websites and mobile applications, allows it to increase its target audience and collect big data for further processing; 2. Development of social networks for customer acquisition, sales, marketing, and other business purposes, including holding sweepstakes and building a positive company image; 3. E-commerce will allow receiving large B2B orders (baking for restaurants and cafes, specialised baking for corporate events, baking products under the trademarks of large supermarkets)	Lidl, JYSK
Working with data, planning	1. Data analytics to gain insights into customers or to inform business decisions; 2. Online scheduling capabilities through their own websites or third-party platforms.	McDonald's, Starbucks Coffee Company
Promotion and advertising through social media	Reaching new audiences and developing the brand	Pepco, L'Oréal

Optimisation of business processes	1. Internal productivity tools that improve business processes, such as cloud-based software and corporate social networks, will allow us to use less raw materials and energy and save energy; 2. Providing customers with a choice of different contactless payment options - credit cards and mobile wallets make transactions much easier and faster; 3. The use of artificial intelligence in marketing campaigns and workflows, chatbots, automated newsletters, and website analytics opens up new opportunities for the development of customer-centric management in the PPC	Starbucks Coffee Company,
---	---	---------------------------

Source: Compiled by the author based on (Rybalchenko *et al.*, 2022; Schuh *et al.*, 2020; Sirojiddin, 2022)

Given the large number of tasks that digital tools can solve, it can be argued that digitalisation is one of the main vectors of development for modern bakeries. Today, the IT market is actively growing and offers various technological solutions to improve the quality of service, attract new customers and develop additional niches and markets, analytics, assess consumer behaviour and demand, monitor, automate e-procurement and digitalise sales.

The digital technology market offers ready-made digital solutions for the PPC to automate and optimise processes. The main thing is to choose really necessary and working tools that will improve the company's competitiveness without significant financial costs. And in this regard, small companies are more flexible and modular than large businesses.

The next step would be to consider in more detail the possibilities of using specific digital tools for PPC (Kholod *et al.*, 2021; Ostropolska, 2021; Bera *et al.*, 2021;).

1. Procurement and supplier relationship management (SRM) systems reduce the risk of errors, and interaction with counterparties is carried out through an omnichannel platform. This is convenient for all participants in the process and increases loyalty and personalisation through customisable personal accounts. Food processing centres can adjust the volume of raw materials purchased without the need to store flour or sugar in their own warehouses.

2. Project management systems help to plan and control the implementation of projects more efficiently, assign roles, and automate routine tasks of managers. They can be integrated with other enterprise systems. For those PPCs that work to order, the use of project management will allow them to fulfil orders more efficiently and in a timely manner.

3. Cloud solutions and no-code/low-code development are an affordable option for PPCs, there is no need to hire a whole team of programmers to be able to scale the business. Cloud technologies allow you to scale your business, improve data availability, and reduce hardware costs. However, you should keep cybersecurity in mind and choose secure services based on your digital strategy and business area.

4. Tools for entering e-commerce - the development of websites, online stores, marketplaces for the CPP increases the company's "visibility" in the market, personalises the customer experience, and attracts new customers. And based on the results of analytics collected from online platforms, the company's analysts can build effective marketing strategies and create relevant offers for the sale of goods and services.

5. Electronic document management and online accounting systems help ensure accurate financial accounting and reporting on time and analyse the company's financial performance. It is especially convenient that electronic document management systems can be easily integrated with ready-made B2B portals, marketplaces, corporate business portals, and other products, if necessary.

6. Services for logistics (automation of cargo transportation), data monitoring and analysis, Big Data. Such a digital tool may be required if the distribution centre independently delivers its products to points of sale or provides delivery of individual orders. When choosing logistics platforms, it is important to pay attention to the automation tasks of each particular company: from the selection of reliable carriers to cargo control. In this case, it is more convenient for a logistics centre to use a modular system to connect only the necessary services.

7. Chatbots and robotics tools are gradually becoming available not only to large corporations but also to PSCs, for example, in the delivery of goods or to assist service personnel. Chatbots can integrate with CRM, process customer data, and personalise communication with customers, which is important for those PSCs that deliver orders to addresses, even through delivery systems.

8. Video surveillance and time tracking systems - based on neural networks, they can be used to control employees and monitor equipment operation.

All of these digital technologies are aimed, on the one hand, at improving the quality of the products of the customer service centre if the bakery is organised as a cafe, and, on the other hand, at optimising the work of the kitchen and staff.

So, to sum up, it is worth noting that the growth of competitiveness of small businesses largely depends on the quality and thoughtfulness of the implementation of digital tools. They can either open up new opportunities for the company or become a waste of money if their implementation and further use is not well thought out.

Discussion

Digitalisation is conceptually changing the architecture of the modern business. The digitalisation tools being implemented eliminate inefficient business processes and unnecessary intermediation while reducing the cost of services and providing them faster, which reduces costs and minimises human errors. The literature widely presents views on the features and specifics of using various digital technologies and tools.

One of the most widespread approaches to business digitalisation is the introduction of artificial intelligence (Sousa et al., 2021) and neural networks (Martin et al., 2022) for specific business tasks. For example, artificial intelligence is used to route transport, control hundreds of video cameras, develop the agricultural sector, the media industry, medicine, construction, and industry. However, scholars (Beck, 2020; Bulturbayevich, 2023) also emphasise that this tool can be unreasonably expensive and, if not properly configured, can produce unsatisfactory results. As a result of the author's research, it is possible to agree that artificial intelligence opens up significant prospects for business, but should be used carefully and with detailed planning of its capabilities since its implementation involves quite significant costs that may not always be justified.

Another area of digitalisation is the use of e-commerce on own B2B and B2C trading platforms with connected modules for personalised marketing, 24/7 uploading of online order content, and other PIM system capabilities (Krylov et al., 2022). However, it is worth emphasising that such an

order management tool is only justified for chain businesses or large manufacturers, while it can be unreasonably expensive for small businesses.

For example, Alekseenko I. (2020) and Wach K. (2020) emphasise the need to use detailed analytics for the competent use of data to make goods and services of higher quality in terms of ease of receipt, use and delivery, and the service - customer-oriented, increase loyalty, segment the audience and become flexible. And here, the literature (Srhoj & Walde, 2020) supports the idea that without digital technologies, changes are more difficult, expensive and time-consuming, which is quite logical, since digital technologies make it much easier to receive feedback and determine what the customer would like to change in the quality of products or service system. The authors' position, as outlined above, can be agreed upon, as a detailed analysis should be carried out to ensure the balanced use of various digital tools.

In general, digital transformation is carried out at the level of digitisation of data and information in a company, using highly specific services and programmes that can be adapted to a particular business and its specifics, which may also take into account the development of an internal management system. The issue of establishing the boundary between the adaptation of existing software to the specifics of a particular business and the development of a specialised software product for a particular business remains a matter of debate.

When considering the implementation of digital technologies, most researchers (Sirojiddin, 2022; Tulchynska et al., 2021; Zhang & Chen, 2020) also focus on data protection as a key task for companies that collect customer data. And there is still a debate about the extent to which companies can use data and where exactly is the boundary of ethics in the use and processing of personal data of customers. We should definitely agree with them, as data protection issues are becoming more and more relevant in the current realities of business development.

The presence of a large number of controversial issues confirms the significant attention of the scientific community to digitalisation and highlights the relevance of all aspects of the digital transformation of modern business.

Conclusions and Implications

Another major area of digitalisation for the PSC is the automation of management and production processes. The use of digital management tools leads to increased requirements for the relevance and timeliness of data used to support decision-making, which can have a positive impact on the creditworthiness of the business.

The study also proved that digital tools can be used to control the quality of finished products and staff work using machine vision. This may not be cost-effective for all manufacturers, but it opens up significant opportunities for optimising the work of companies.

However, in the process of developing the topic, it was also proved that the main risk of digitalisation for the CCP is the need to protect data. Accordingly, there is a need not only to introduce digital tools but also to budget for the development of a cybersecurity system. It is worth noting that consumer awareness of the protection of their personal data can significantly increase a company's competitiveness.

The study also summarises the reasons for the slowdown in the digital development of small enterprises, which should be taken into account when considering the conditions for the use of digital tools.

We also formulated tasks that can be solved by digital tools, provided they are implemented in the activities of the PPC, which will enrich the management system of full-cycle bakeries and improve their financial results.

Suggestions for Future Research

The issues of digital transformation are becoming increasingly relevant and attracting the attention of the scientific community, but the growing volume of scientific papers in this area also highlights a significant list of issues related to digitalisation that require more detailed consideration.

The first of these issues relates to personal data protection and cybersecurity. Here, it is worth considering both the technical features of building a cyber defence system and the financial aspects of developing and implementing personal data protection tools. It may be inappropriate for small companies to build a powerful data collection system, as the benefits of its use may be less than the costs of creating and implementing data protection algorithms.

One area for further research is the ethical aspects of data collection and e-commerce in general, as well as the sale of goods through social media. The promotion of online shopping and impulse buying is not always an ethical tool for sales development. In addition, promoting products through social media does not always provide all the necessary information about the features of a particular product or service.

In terms of the digitalisation of full-service bakeries, issues related to the creation of a comprehensive management system for bakeries operating in the café format require further development. Such businesses need systems that allow them to plan purchasing volumes, control product quality and staff performance, and process orders made directly in the hall, by customers who have already arrived, as well as by those customers who would like to order products to their homes or offices. Such a system should handle the volume and specificity of orders and allow for planning the volume of raw material purchases, taking into account the busiest hours of the day and creating an optimal work schedule for employees. The development of such a system is not a matter of a single science but requires the joint efforts of software developers, economists, technologists, financiers, psychologists, marketers, and other specialists.

References

- Aleksieienko, I., Poltinina O., Leliuk S. (2020). Information support of the management process of the economic entity. *Modern science: problems and innovations: II Intern. scientific-practical. conf.* (3-5 May 2020, Stockholm). Stockholm, 2020. <http://repository.hneu.edu.ua/bitstream/123456789/26133/1/15.pdf>
- Bakirtas, T., & Akpolat, A. G. (2020). The relationship between crude oil exports, crude oil prices, and military expenditures in some OPEC countries. *Resources Policy*, 67, 101-159.
- Beck, Th. (2020). Fintech and financial inclusion: Opportunities and pitfalls, *ADB Working Paper Series*, 110, 78-94. <https://www.econstor.eu/bitstream/10419/238522/1/adbi-wp1165.pdf>
- Bera, A., Vij, R. K., & Shah, S. (2021). Impact of newly implemented enhanced oil and gas recovery screening policy on current oil production and future energy supply in India. *Journal of Petroleum Science and Engineering*, 207, 109-196. <https://doi.org/10.1016/j.petrol.2021.109196>

- Bertoni, F., Martí, J., & Reverte, C. (2019). The impact of government-supported participative loans on the growth of entrepreneurial ventures. *Research Policy*, 48(1), 371-384. <https://doi.org/10.1016/j.respol.2018.09.006>.
- Bika, Z., Subalova, M., & Locke, C. (2022). Microfinance and small business development in a transitional economy: Insights from borrowers' relations with microfinance organisations in Kazakhstan. *The Journal of Development Studies*, 58(1), 183-203. <https://doi.org/10.1080/00220388.2021.1956472>
- Bulturbayevich, M. B. (2023). Increase The Share Of The Population In The Economic Sectors Through The Development Of Small Business And Private Entrepreneurship. *Journal of Survey in Fisheries Sciences*, 10(2S), 2937-2943. <https://doi.org/10.17762/sfs.v10i2S.1435>
- Buss, K.-P., Oberbeck, H., Tullius, K. (2021). Systemic rationalization 4.0. How competition and business models are shaping digitalization in retail, logistics, and financial services. *Berliner Journal fur Soziologie*. <https://doi.org/10.1007/s11609-021-00459-1>
- Cai, X.; Li, J.; Wu, J.; Zhang, H.; Chen, P.; Huang, X. (2022). The Impact of Enterprise R&D Investment and Government Subsidies on Technological Progress: Evidence from China's PV Industry. *Energies*, 15, 4462. <https://doi.org/10.3390/en15124462>
- Chen, Y., Bellavitis, C. (2020). Blockchain disruption and decentralized finance: The rise of decentralized business models. *Journal of Business Venturing Insights*, 13, 8. <https://doi.org/10.1016/j.jbvi.2019.e00151>
- Chen, Z., & Chan, I. C. C. (2022). Smart cities and quality of life: A quantitative analysis of citizens' support for smart city development. *Information Technology & People*, 36, 263-285. <https://www.emerald.com/insight/content/doi/10.1108/ITP-07-2021-0577/full/html>
- Coad, A., & Srhoj, S. (2019). Catching gazelles with a lasso. Big Data techniques for the prediction of high-growth firms. *Small Business Economics*, 1-25. <https://doi.org/10.1007/s11187-019-00203-3>.
- Criscuolo, C., Martin, R., Overman, H. G., & Van Reenen, J. (2019). The causal effects of an industrial policy. *American Economic Review*, 109(1), 48-85. <https://doi.org/10.1257/aer.20160034>.
- Digital Economy and Society Index (DESI) 2022. (2023). Shaping Europe's digital future. <https://digital-strategy.ec.europa.eu/en/library/digital-economy-and-society-index-desi-2022>
- Dubyna, M., Panchenko, O., Bazilinska, O., Donkohlova, T., Shpomer, A., Rudenko, O. (2021). The Role of Informal Institutions in the Development of the Financial Services Market. *IJCSNS International Journal of Computer Science and Network Security*, 21(11). <https://er.chdtu.edu.ua/bitstream/ChSTU/3017/1/20211129.pdf>
- Fedyshyn, M.F., Abramova, A.S., Zhavoronok, A.V., Marych, M.G. (2019). Management of competitiveness of the banking services. *Financial and credit activity: problems of theory and practice*, 1(28), 64-74. <https://doi.org/10.18371/fcaptp.v1i28.163340>.
- Hryhorash, O., Bocharov, D., Korneyev, M., Rudyanova, T., & Hryhorash, T. (2022). The quality of higher education and its funding in countries with different levels of socio-economic development. *Knowledge and Performance Management*, 6(1), 49-61. [https://doi.org/10.21511/kpm.06\(1\).2022.05](https://doi.org/10.21511/kpm.06(1).2022.05)

- Hurzhyi, N., Kravchenko, A., Kulinich, T., Saienko, V., Chopko, N., & Skomorovskyi, A. (2022). Enterprise Development Strategies in a Post-Industrial Society. *Postmodern Openings*, 13, 173-183. <https://doi.org/10.18662/po/13.1Sup1/420>
- Ionescu, RV., Zlati, M.L. & Antohi, VM. (2023). Smart cities from low cost to expensive solutions under an optimal analysis. *Financ Innov*, 9, 60-83. <https://doi.org/10.1186/s40854-023-00448-8>
- Kholiavko, N., Popelo, O., Tulchynska, S. (2021). Priority Directions of Increasing the Adaptivity of Universities to the Conditions of the Digital Economy. *Revista Tempos E Espaços Em Educação*, 14(33), e16383. <https://doi.org/10.20952/revtee.v14i33.16383>.
- Kholiavko, N., Popelo, O., Bazhenkov, I., Shaposhnykova, I., Sheremet, O. (2021). Information and communication technologies as a tool of strategy for ensuring the higher education adaptation to the digital economy challenge. *International Journal of Computer Science and Network Security*, 21(8), 187-195. <https://doi.org/10.22937/IJCSNS.2021.21.8.25>.
- Kholod, S., Iefimova, G., Margasova, V., Hamed Rashed Sayed Abdullah Alnuaimi, Taleb Abdullah Mohammed Ali Alhammadi (2021). Risk Management Tools for Emergencies in the Context of Global Informatization. *Estudios De Economia Aplicada*, 39(5). <http://ojs.ual.es/ojs/index.php/eea/article/view/4780>
- Kontokosta, C. E., & Hong, B. (2021). Bias in smart city governance: How socio-spatial disparities in 311 complaint behavior impact the fairness of data-driven decisions. *Sustainable Cities and Society*, 64, 102-163. <https://doi.org/10.1016/j.scs.2020.102503>
- Krylov, D., Papaika, O., Panchenko, O., Pylevych, D., Kozlianchenko, O., & Konoplia, N. (2022). Modern Tendencies of Digitalization of the Financial Services Sphere. *IJCSNS*, 22(2), 39. <https://koreascience.kr/article/JAKO202213042386214.pdf>
- Kulkarni, L., Ghosh, A. (2021). Gender disparity in the digitalization of financial services: challenges and promises for women's financial inclusion in India. *Gender, Technology and Development*, 25(2), 233-250. DOI: 10.1080/09718524.2021.1911022.
- Liu, Y., Dilanchiev, A., Xu, K., & Hajiyeva, A. M. (2022). Financing SMEs and business development as new post Covid-19 economic recovery determinants. *Economic Analysis and Policy*, 76, 554-567. <https://doi.org/10.1016/j.eap.2022.09.006>
- Lucato, W. C., Pacchini, A. P. T., Facchini, F., & Mummolo, G. (2019). Model to evaluate the Industry 4.0 readiness degree in Industrial Companies. *IFAC-PapersOnLine*, 52(13), 1808-1813. <https://doi.org/10.1016/j.ifacol.2019.11.464>
- Martin, A., Mikołajczak, G., Baekkeskov, E., & Hartley, K. (2022). Political stability, trust and support for public policies: a survey experiment examining source effects for COVID-19 interventions in Australia and Hong Kong. *International Journal of Public Opinion Research*, 34(3), 24-43. <https://doi.org/10.1093/ijpor/edac024>
- Oneshko, S., & Pashchuk, L. (2021). Industry 4.0 and creative economy (globalization challenges of the time). *Futurity Economics&Law*, 1(4), 4-11. <https://doi.org/10.57125/FEL.2021.12.25.01>
- Ostropolska, Y. (2021). Problems and prospects of development of SMART economy in the Post-Socialist States (challenges of the future). *Futurity Economics&Law*, 1(3), 4-16. <https://doi.org/10.57125/FEL.2021.09.25.01>
- Popelo, O., Dubyna, M., Kholiavko, N. (2021). World Experience in the Introduction of Modern Innovation and Information Technologies in the Functioning of Financial Institutions. *Baltic*

Journal of Economic Studies, 7(2), 188- 199. <https://doi.org/10.30525/2256-0742/2021-7-2-188-199>

- Reardon, L., Marsden, G., Campbell, M., Gupta, S., & Verma, A. (2023). Analysing multilevel governance dynamics in India: Exercising hierarchy through the Smart Cities Mission. *Territory, Politics, Governance*, 1-19. <https://doi.org/10.1080/21622671.2022.2107559>
- Rybalchenko, S., Lukianychina, O., Alamanova, C., Saienko, V., & Sunduk, T. (2022). Anti-crisis management of banking institutions: current problems and prospects for improvement. *Financial and Credit Activity-Problems of Theory and Practice*, 5(46), 29-39. <https://doi.org/10.55643/fcaptp.5.46.2022.3907>
- Schuh, G., Anderl, R., Dumitrescu, R., Krüger, A., & Ten Hompel M., (2020). Industrie 4.0 Maturity Index Managing the Digital Transformation of Companies. *Munich: National Academy of Science and Engineering*. Retrieved August, 29. https://boundarysys.com/wp-content/uploads/2021/03/Acat-ech_Maturity_Index_2020-IAN.pdf
- Sermuksnyte-Alesiuniene, K., Simanaviciene, Z., Bickauske, D., Mosiuk, S., Belova, I. (2021). Increasing the Effectiveness of Food Supply Chain Logistics Through Digital Transformation. *Independent Journal of Management & Production*, 6 (12), 677-701. DOI 10.14807/ijmp.v12i6.1748
- Sirojiddin, S. (2022). Small business and private entrepreneurship is a place to provide employment. *Journal of Academic Research and Trends in Educational Sciences*, 1(12), 115-119. https://api.scienceweb.uz/storage/publication_files/7594/20919/65c74bf5eb771___small%20busines.pdf
- Soltovski, R., Rodrigues, T. V., De Resende, L. M. M., Pontes, J., & Tadashi Yoshino, R., (2020). Industry 4.0 risks: a theoretical framework from the perspectives of sustainability. *The Journal of Engineering and Exact Sciences*, 6 (5), 0695-0703. <https://doi.org/10.18540/jcecvl6iss5pp0695-0703>
- Sousa, R. D., Boranbayeva, A., Satpayeva, Z., & Gassanova, A. (2021). Management of successful technology transfer in agriculture: The case of Kazakhstan. *Problems and Perspectives in Management*, 19(3), 488-501. [https://doi.org/10.21511/ppm.19\(3\).2021.40](https://doi.org/10.21511/ppm.19(3).2021.40)
- Srhoj, S., & Walde, J. (2020). Getting ready for EU Single Market: The effect of export-oriented grant schemes on firm performance. *Structural Change and Economic Dynamics*, 52, 279-293. <https://doi.org/10.1016/j.strueco.2019.11.001>.
- Srhoj, S., Lapinski, M., & Walde, J. (2021). Impact evaluation of business development grants on SME performance. *Small Business Economics*, 57, 1285-1301. <https://link.springer.com/article/10.1007/s11187-020-00348-6>
- Srimulyani, V. A., & Hermanto, Y. B. (2021). Impact of entrepreneurial self-efficacy and entrepreneurial motivation on micro and small business success for food and beverage sector in east Java, Indonesia. *Economies*, 10(1), 10-23. <https://doi.org/10.3390/economies10010010>
- Tulchynska, S., Vovk, O., Popelo, O., Saloid, S., Kostyunik, O. (2021). Innovation and investment strategies to intensify the potential modernization and to increase the competitiveness of microeconomic systems. *International Journal of Computer Science and Network Security*, 21(6), 161-168. <https://doi.org/10.22937/IJCSNS.2021.21.6.22>.

- Vidgen, R., Shaw, S., & Grant, D. B. (2017). Management challenges in creating value from business analytics. *European Journal of Operational Research*, 261(2), 626-639. <https://doi.org/10.1016/j.ejor.2017.02.023>
- Vives, X. (2019). Competition and stability in modern banking: A post-crisis perspective. *International Journal of Industrial Organization*, 64, 34-69. <https://doi.org/10.1016/j.ijindorg.2018.08.011>
- Wach, K. (2020). A typology of small business growth modelling: a critical literature review. *Entrepreneurial Business and Economics Review*, 8(1), 159-184. <https://www.cceol.com/search/article-detail?id=976197>
- Wang Suzhen, HU Lisha, Sun Jieli. (2020). Research and practice on the training mode of outstanding talents in big data -- based on the perspective of "new Finance and Economics" and the application direction of financial big data case teaching as an example. *Journal of Hebei university of economy and trade (comprehensive edition)*, 20 (4), 79-83. <https://doi.org/10.14178/j.carolcarrollnkiissn1673-1573.2020.04.013>.
- Xu, G., Chen, C., Li, F., & Qiu, X. (2020). AIS data analytics for adaptive rotating shift in vessel traffic service. *Industrial Management & Data Systems* 120(4), 749-767. <https://doi.org/10.1108/IMDS-01-2019-0056>
- Yalcin, A. S., Kilic, H. S., & Delen, D. (2022). The use of multi-criteria decision-making methods in business analytics: A comprehensive literature review. *Technological forecasting and social change*, 174, 121193. <https://doi.org/10.1016/j.techfore.2021.121193>
- Zhang Ying. (2020). Research on supply chain financial risk management countermeasures of small and micro enterprises based on big data. *Modern business*, (20). 118-119. <https://doi.org/10.14097/j.carolcarrollnki.5392/2020.20.052>
- Zhang, C., & Chen, Y. (2020). A review of research relevant to the emerging industry trends: Industry 4.0, IoT, blockchain, and business analytics. *Journal of Industrial Integration and Management*, 5(01), 165-180. <https://doi.org/10.1142/S2424862219500192>
- Zhou, D., Kautonen, M., Dai, W., Zhang, H. (2021). Exploring how digitalization influences incumbents in financial services: The role of entrepreneurial orientation, firm assets, and organizational legitimacy. *Technological Forecasting and Social Change*, 173, 121120. DOI: 10.1016/j.techfore.2021.121120