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DIGITAL TRANSFORMATION OF CORE ACTIVITIES OF SMALL AND MEDIUM-SIZED ENTREPRENEURS: TOOLS AND METHODS

The digital transformation of the core activities of small and medium-sized entrepreneurs is in an active phase, driven by several reasons, including increased investments in digital technologies, growth in data volumes and analysis options, heightened competitive pressure, the pace of technological change, the popularity of digital communication channels, and responses to global trends. Therefore, the research aims to identify the tools and methods for the digital transformation of the core activities of small and medium-sized entrepreneurs (specifically, the business processes that constitute their primary operations and generate the main revenue stream). Within the research, it is emphasized that the digital transformation of the core activities of small and medium-sized entrepreneurs is based on the rethinking and transformation of fundamental business processes. The authors have demonstrated that considering the extensive scope of such entrepreneur's activities, this means that they must quickly change their business approaches without jeopardizing their overall viability.

Keywords: digital technology integration, manufacturing, production operations, sales operations, supply chain, procurement logistics operations, entrepreneurship.

JEL classification: Q 13

ЦИФРОВА ТРАНСФОРМАЦІЯ ОСНОВНОЇ ДІЯЛЬНОСТІ МАЛИХ ТА СЕРЕДНІХ ПІДПРИЄМЦІВ: ІНСТРУМЕНТИ ТА МЕТОДИ

Цифрова трансформація основної діяльності малих та середніх підприємств перебуває в активній фазі, і це зумовлене рядом причин. Серед них збільшення інвестицій у цифрові технології, зростання обсягів даних та опцій їх аналізу, посилення конкурентного тиску, швидкість змін технологій, популярність цифрових каналів комунікації та реакція на глобальні тренди. Відтак, мета дослідження полягає в ідентифікації інструментів та методів цифрової трансформації основної діяльності малих та середніх підприємств (а саме бізнес-процесів, які складають їх основний бізнес і створюють основний потік доходів). У межах дослідження наголошується, що цифрова трансформація основної діяльності малих та середніх підприємств ґрунтується на переосмисленні та перетворенні основних бізнес-процесів. Підтверджено, що враховуючи невеликий обсяг діяльності таких підприємств, це означає, що вони повинні швидко змінити свої підходи до ведення бізнесу, не створюючи при цьому проблем у загальній життєздатності. Констатовано, що підприємцям необхідно аналізувати та змінювати свої основні бізнес-процеси. Для малих і середніх підприємств такі процеси піддаються змінам завдяки інтеграції цифрових технологій у всі аспекти виробництва та виробничих операцій, збутової діяльності та операцій з продажу, сервісу та обслуговування клієнтів, постачання та операцій закупівельної логістики. Зроблено висновок, що цифрова трансформація основної діяльності малого та середнього підприємства концептуально є зміною у способі його роботи, у підходах до обслуговування клієнтів та до виробництва продуктів або послуг. Разом з тим, з практичного погляду, кожна така зміна спрямована на те, щоб усі окреслені бізнес-процеси були оптимізовані та пристосовані до цифрового середовища, з метою збереження або підвищення загальної життєздатності підприємця. У дослідженні зазначено, що загальна життєздатність малих та середніх підприємств визначається їх здатністю до успішної функціональності та розвитку в умовах ринкової конкуренції й змінного бізнес-середовища. Перспективи подальших досліджень полягають у дослідженні специфічних інструментів та методів цифрової трансформації для різних галузей малого та середнього бізнесу, з урахуванням їхніх особливостей та потреб.

Ключові слова: інтеграція цифрових технологій, виробництво, виробничі операції, операції з продажу, постачання, операції закупівельної логістики, підприємництво.

Statement of the problem. The digital transformation of the core activities of small and medium-sized entrepreneurs is in an active phase, driven by several reasons, including increased investments in digital technologies, growth in data volumes and options for analysis, heightened competitive pressure, the pace of technological change, the popularity of digital communication channels, and reactions to global trends. Therefore, as an evolutionary process, this transformation has become essential for the sustainability of small and medium-sized businesses in national and global contexts. This is because rapid technological changes and the standardization of digital trends render a significant portion of core business processes inefficient due to several reasons, including outdated systems and processes, limitations in speed and flexibility, and increased consumer demands. As a result, entrepreneurs who do not adapt to digital transformation risk losing their functionality and falling behind modern market demands.

Analysis of recent research and publications. The phenomenon of digital transformation of entrepreneurs' core activities has been the subject of numerous scholarly works. In particular, the works of Zilgalova O. [2], Ivanchenko N.O., Kudrytska Zh.V., and Rekachinska K.V. [3] deserve attention as they explore trends in the growing share of the digital economy within the structure of the traditional one and emphasize the transformations of entrepreneurs' core activities resulting from these trends. They emphasize the importance of adapting business processes to the new conditions created by digital technologies and the implementation of innovative solutions to support competitiveness. Interesting is also the scholarly works of Kulynych M.B. [5] and Tanasiichuk V. [6]. These authors also emphasize the challenges to the overall viability of small and medium-sized entrepreneurs when they do not change their approaches to conducting business. In their research, they underscore that without digital technologies integration, entrepreneurs risk losing their competitiveness and viability in today's rapidly changing market influenced by digital innovations.

Accordingly, we emphasize the importance of identifying the tools and methods for the digital transformation of the core activities of small and medium-sized entrepreneurs.

Objectives of the article. The aim of the research is to identify the tools and methods for the digital transformation of the core activities of small and medium-sized entrepreneurs, specifically focusing on the business processes that constitute their primary operations and generate the main revenue stream

Summary of the main results of the study. The transformation of small and medium-sized entrepreneurs in the digital era involves rethinking and revamping core business processes to improve their overall viability. Given the small scale of operations of such entrepreneurs (where for medium-sized enterprises, these volumes are defined by a staff of 50 to 250 people, with annual revenue up to 50 million euros, and for small enterprises, by a staff of up to 50 people, with annual revenue up to 10 million euros), this means that they must quickly change their approaches to conducting business, utilizing digital technologies and innovative methods to optimize and enhance all aspects

of their operations [1]. In this context, entrepreneurs must analyze and modify their core business processes. For small and medium-sized entrepreneurs, these business processes change to [1; 5–6]:

1. Integration of digital technologies into all aspects of production and manufacturing operations. This results in fundamental changes in production processes, the operation of manufacturing equipment, product quality, and production costs.

2. Incorporating digital technologies into sales activities and sales operations. It leads to fundamental changes in product and service promotion, building customer interactions, as well as in data analysis for more precise targeting of marketing efforts.

3. Integration of digital technologies into service and customer support. It leads to fundamental changes in customer service and in managing customer feedback.

4. Integrating digital technologies into supply chain and procurement logistics operations. It leads to fundamental changes in inventory management systems and software for supply chain management.

Examples of such changes include the use of robots to automate assembly lines, reducing the need for manual labor, increasing productivity, and lowering production costs. Another example is the creation of digital models of production processes for testing and optimizing processes without interrupting real production [4]. Additionally, an example is the implementation of online stores, allowing entrepreneurs to sell products directly to consumers via the Internet.

Thus, the digital transformation of the core activities of small and medium-sized entrepreneurs is conceptually a change in how they operate, in their approaches to customer service, and the production of products or services. However, from a practical standpoint, each change in the core activities is aimed at ensuring that all outlined business processes are optimized and adapted to the digital environment, thereby preserving or enhancing the overall viability of the entrepreneur.

Actors emphasize that the overall viability of small and medium-sized entrepreneurs is determined by their ability to function successfully and evolve in conditions of market competition and a changing business environment. This should be done according to the specifics outlined in Figure 1.

So, indicators of viability for small and medium-sized entrepreneurs include:

1. Resilience to challenges is an entrepreneur's ability to overcome difficulties and maintain endurance in uncertain conditions.

2. Adaptability of core activities is interpreted as the ability to quickly adapt to internal and external environment changes, including changes in technologies, legislation, consumer demand, etc.

3. Innovativeness is interpreted as the ability to generate new ideas, develop new products or services, and improve existing processes, and methods of work.

4. Effective resource management is interpreted as the ability to efficiently utilize resources (human, financial, material, etc.) to achieve set goals.

5. Financial stability is interpreted as the entrepreneur's ability to ensure a stable financial condition of their business through generating profitability, effectively managing expenses, and ensuring financial stability.

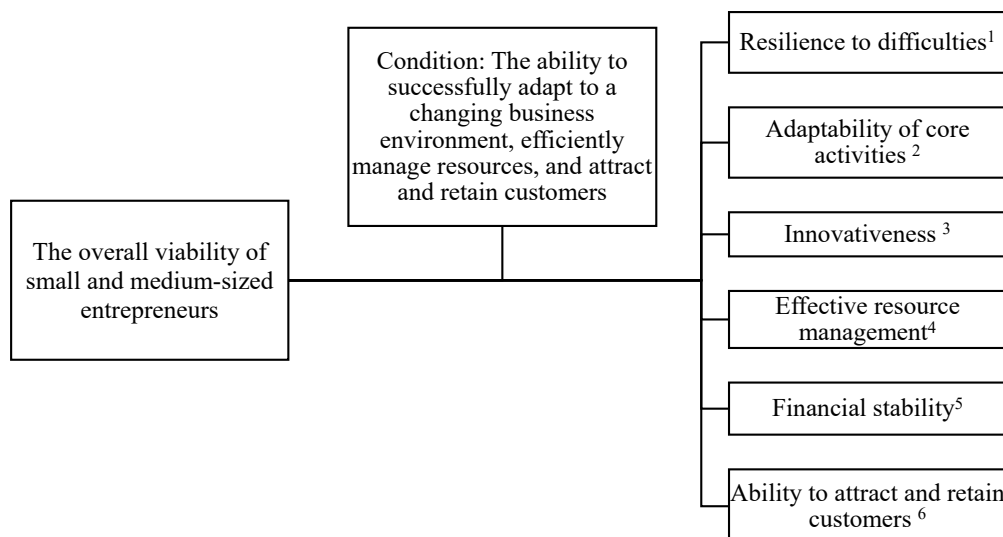


Figure 1. General indicators of viability for small and medium-sized entrepreneurs

Note

- ¹ This is the entrepreneur's ability to withstand negative influences while maintaining productivity and functionality
- ² This means the entrepreneur's ability to change their strategies, processes, and products in response to changing market conditions, customer needs, and technological innovations (including flexibility in responding to changes in economic, social, and political conditions, as well as the ability to quickly implement new ideas and methods to achieve the business goals)
- ³ This is the ability to generate new ideas, technologies, products, or services and successfully implement them in the market (including the ability to find creative ways to solve problems or meet market needs, allowing differentiation from competitors and ensuring the stable development of the business).
- ⁴ This is the ability to efficiently utilize various resources, such as human, financial, material, and others, to achieve the strategic goals of the entrepreneurs (including effective planning, organization, control, and rational use of resources, aiming to optimize processes and maximize the results of the entrepreneur's activities)
- ⁵ This is the ability of the enterprise to maintain stable financial development and ensure financial stability in various economic environments (including the ability to generate profit, provide sufficient resources to meet obligations, and facilitate the growth of the business)
- ⁶ This is the entrepreneur's ability to effectively attract new customers and ensure their satisfaction from cooperation, as well as to maintain and develop relationships with existing customers/

Source: formed based on [1; 3; 5–6]

The ability to attract and retain customers, interpreted as the entrepreneur's ability to attract new customers and ensure their satisfaction from cooperation, as well as to maintain and develop relationships with existing customers.

Therefore, the viability of an entrepreneur is determined by their ability to successfully adapt core business processes to a changing business environment, resource capabilities, and the ability to attract and retain customers [5].

Digital transformation of production and manufacturing operations for entrepreneurs involves the digital technologies implementation and innovative approaches aimed at improving efficiency, quality, and flexibility parameters in production processes according to the specifics outlined in Table 1.

Changes in the outlined business process facilitate a more efficient selection of production strategies and ensure their adaptability according to market demands [1].

The use of digital technologies to automate production processes, optimize the supply chain, improve product quality, and reduce manufacturing costs [1; 3].

Digital transformation of sales and marketing operations involves utilizing digital channels to promote products and services, engaging with customers (via social

media and electronic communication, and analyzing data) (refer to Table 2).

Changes in the outlined business process contribute to achieving more precise targeting of marketing efforts to increase sales volumes, improve customer service, and attract new customers [1–2].

Digital transformation of customer service involves the implementation of digital technologies and tools to enhance interactions with customers and increase their satisfaction by the specifics outlined in Table 3.

Changes in the outlined business process contribute to increased customer loyalty and sales growth [2].

Digital transformation of procurement and supply chain operations involves the implementation of modern digital technologies to enhance the efficiency, accuracy, and transparency of procurement processes and supply chain management according to the specifics outlined in Table 4.

Changes in the outlined business process contribute to improving procurement flexibility and adaptability, reducing costs, enhancing inventory management, and increasing supply chain efficiency [7].

Conclusions. The study emphasizes that the digital transformation of small and medium-sized entrepreneurs is based on reimagining and transforming core business processes. Given the small scale of activities of such entre-

Table 1

The features of digital transformation in production and manufacturing operations that enhance the viability of small and medium-sized entrepreneurs

The direction	The specificity of the process	Signs of improving the viability of an entrepreneur	The orientation
Automation and robotics	Implementation of automated production systems and robotics	Reduction of manual labor, increase in production speed, and decrease in labor costs	Selecting production strategies and ensuring their adaptability according to market demands
Internet of Things (IoT)	Utilization of sensors and connected physical devices	Improvement in monitoring quality and optimization of equipment operation, inventory management, and product quality control	
Analytics and Artificial Intelligence	Employment of analytical tools and artificial intelligence algorithms	Expansion of options in forecasting product demand, optimizing production processes, and improving supply chain management	
Digital twins	Creation of digital models of equipment and production processes	Formulation of equipment operation scenarios and real-time optimization of its performance	
Cloud technologies and data processing	Utilization of cloud-based data storage and processing systems	Access to data anytime and from anywhere, as well as using it for analysis and making production decisions	

Source: formed based on [1; 3; 5]

Table 2

Features of digital transformation in sales and sales operations that enhance the viability of small and medium-sized entrepreneurs

The direction	The specificity of the process	Signs of improving the viability of an entrepreneur	The orientation
Utilization of digital marketing channels	Websites, social media, email, and mobile applications provide entrepreneurs with the opportunity to effectively reach their target audience	Attracting new customers and maintaining effective communication with existing ones	Achieving more precise targeting of marketing efforts to increase sales volumes, improve customer service, and attract new customers
Establishing interaction through social media	Social networks become an important tool for interacting with customers	Providing information support to customers, responding to inquiries, as well as addressing complaints and suggestions.	
Electronic communication	Utilizing email, chatbots, and other digital communication tools	Creating opportunities to quickly and efficiently communicate with customers, provide information about products and services, and address questions and issues	
Data analysis	Collecting and analyzing customer data	Creating opportunities for entrepreneurs to better understand their customers' needs and behavior (personalizing offers, refining sales strategies, and developing more effective marketing campaigns)	

Source: formed based on [1–2; 6]

Table 3

Features of digital transformation of customer service and sales that enhance the viability of small and medium-sized entrepreneurs

The direction	The specificity of the process	Signs of improving the viability of an entrepreneur	The orientation
Online consultations	Providing consultations and support to clients through online channels such as video conferencing, chats, and email	It creates opportunities to respond promptly to consumer inquiries and allows for providing qualified assistance regardless of the customer's location	Increased customer loyalty and sales growth
Chatbots	Utilizing chatbots for automated communication with clients	It creates opportunities to reduce the workload on customer support services and improve service speed	
Customer feedback management systems	Implementing platforms for collecting, analyzing, and managing customer feedback	It provides opportunities for entrepreneurs to better understand the needs and expectations of customers, respond to negative feedback, and take measures to improve service	
Omni-channel integration	Providing customers with the ability to interact with the company through various communication channels	It creates opportunities for entrepreneurs to enhance the convenience and accessibility of their services.	

Source: formed based on [2–3]

Table 4

Characteristics of digital transformation in procurement and purchasing logistics operations that enhance the viability of small and medium-sized entrepreneurs

The direction	The specificity of the process	Signs of improving the viability of an entrepreneur	The orientation
Inventory management systems	The use of automated systems for monitoring and managing inventory helps optimize inventory levels, reduce storage costs, and avoid shortages or surpluses of goods.	Providing opportunities for entrepreneurs to ensure timely supply of materials and products, which contributes to uninterrupted production operations.	Flexibility and adaptability in procurement, cost reduction, inventory management improvement, and supply chain efficiency enhancement are essential goals
Supply chain management (SCM) software	The utilization of specialized software for planning, executing, and monitoring all stages of the supply chain	Improving coordination with suppliers, optimizing transportation routes, and quality control are all essential aspects of enhancing supply chain efficiency.	
Procurement analytics and forecasting	The use of analytical tools for analyzing data on supply, product demand, and market trends	Providing entrepreneurs with the ability to accurately forecast material and product needs, plan procurement, and avoid supply disruptions is crucial	
Electronic procurement platforms	Using electronic platforms and trading marketplaces for conducting procurement procedures	Creating opportunities for entrepreneurs to expand their supplier base, reduce time and costs associated with procurement, and enhance transparency and competitiveness in procurement processes is essential	
Document workflow automation	Implementation of electronic document management for managing contracts, invoices, and other documents	Creating opportunities for entrepreneurs to improve control and transparency in procurement processes is crucial	

Source: formed based on [1; 3; 6]

preneurs, this means that they must quickly change their business approaches without compromising their overall viability. The following conclusions have been made:

1. Entrepreneurs should analyze and change their core business processes. For small and medium-sized entrepreneurs, these business processes are subject to change due to the integration of digital technologies into all aspects of production and production operations, sales activities and sales operations, service and customer service, and supply and purchasing logistics operations.

2. The digital transformation of the core business of small and medium-sized entrepreneurs is conceptually a change in the way they work, in their approaches to customer service, and in product or service production. At the same time, from a practical point of view, each such change is aimed at ensuring that all of these business processes are optimized and adapted to the digital environment in such a way as to preserve or increase the overall viability of the entrepreneur.

3. The overall success of a small or medium-sized business depends on its ability to effectively operate and grow amid market competition and evolving business conditions. Such viability is maintained or enhanced through fundamental changes:

- In production processes, the operation of production equipment, product quality, and production costs.
- In promotion of products and services, interaction with customers, and data analysis to guide marketing efforts.
- In customer service and customer feedback management.
- In inventory management systems and supply chain management software.

Prospects for further research lie in the investigation of specific tools and methods of digital transformation for different sectors of small and medium-sized businesses, taking into account their specific characteristics and needs.

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