

Enhancing Business Process Efficiency Through Digital Transformation

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ABSTRACT

Introduction: The paper reveals the impact of digital transformation on the efficiency of business processes.

Objectives: The aim of the study is to reveal the impact of digital transformation on the efficiency of business processes. The object of the study is Ukrainian cultural heritage.

Methods: The study used the following research methods: description, comparison, analysis and synthesis, literature analysis, and generalisation.

Results: The study used the following research methods: description, comparison, analysis and synthesis, literature analysis, and generalisation. The article reveals the impact of digital transformation on the efficiency of business processes. It describes the essence of the concept of “digital transformation”. It characterises the main factors of influence on modern business processes and identifies trends in the business world. The main directions of digital transformation of the business environment are considered. The trends in the use of cloud technologies, digital services, data collection and analysis, and digital networks in companies' business processes are identified. The main advantages of using these technologies in the business environment are identified.

Conclusions: The costs of introducing digital technologies in Ukrainian companies' business processes are analysed. The directions for implementing digital transformations in Ukrainian companies' business processes in 2023 (in %) are considered. The trends of digital transformation in the business processes of domestic enterprises are identified.

Keywords: business process, digitalisation, business world, information technology, companies, areas of activity, digital transformation, digital technologies.

INTRODUCTION

The business world is constantly changing, so business processes require constant improvement. For example, while 100-200 years ago entrepreneurs exercised personal control over organisations and enterprises, today, in the context of globalisation, business owners delegate their powers to employees who manage large-scale processes [1]. At the same time, organisations and companies are striving to obtain the status of “transnational”, which leads to their division into different structural units, as well as the formation of branches and departments [2]. In addition, there is a growing need to involve specialists in business processes who can manage businesses and make decisions in times of crisis [3].

With this in mind, more and more attention is being paid to the digital transformation of business processes [4]. Information technologies can expand their influence on the business world, monitor the implementation of management decisions, and delegate responsibilities to subordinates [5]. In addition, the virtual world contributes to the management of business processes of structural units of large companies with foreign representative offices [6, 7, 8].

LITERATURE REVIEW

A number of domestic and foreign researchers have considered the impact of digital transformation on the efficiency of business processes. These include works of Baldassarre [9], Bavyko and Faiengold [10], Kravchenko and Salabai [11], Agustian et al. [12], Peterson and Fogelberg [13]. They are convinced that all modern business processes can only exist with digital solutions.

In general terms, “digital transformation” is “the introduction of information technology into a particular activity” [14]. This includes the inclusion of new computer and information technologies in the organisation's activities and a general change in the format of activities, in which the business focuses on digitalisation in critical areas rather than traditionally performing daily activities. This affects the business model as the organisation adapts to the new format of information presentation, and even the company's mission changes accordingly.

Thus, in their article “Business Processes as an Object of Management of Modern Business Structures”, Bavyko and Faiengold draw attention to the development of business processes at the present stage [10]. In their opinion, a business process is a defined system of actions aimed at achieving an enterprise's or organisation's goals. Today, there can be many such actions, and they are elements of the enterprise's internal and external functions. At the same time, business processes aim to meet consumers' needs, and for this purpose, they must be organised so that customers make repeated purchases. The researchers emphasise that business processes have a complex classification today, so they include essential and auxiliary business processes and development business processes aimed at creating conditions under which the company's profit will grow. The organisation will only expand its influence.

Researchers Kravchenko and Salabai, in their article “The Role of Digital Transformation of Business Processes of Enterprises”, emphasise that modern business cannot develop without the introduction of new information technologies [11]. Accordingly, digitalisation can increase the efficiency of an organisation and make it competitive. In particular, digital transformations allow for optimising various processes, speeding up production, and increasing sales. A manager can delegate his or her responsibilities to other employees, and they can use information technology to report the results to their manager. Consequently, companies are investing heavily in developing digital technologies, as this is accompanied by an increase in the company's profitability.

In their article “The role of digital transformation in driving sustainable business value”, Peterson and Fogelberg focused on the benefits of using digital technologies in business processes [13]. They are convinced that the main strengths of using digital technologies in business processes are optimisation of the company's activities, reduction of production and sales costs, profit growth, improvement of product quality, strengthening of cooperation between different structural elements of the organisation, and increase of the company's competitiveness. By introducing digital space, a company can adapt more quickly to changes in the external environment, which will allow it not to lose customers and, at the same time, change the format of its operations. In addition, information technology is essential for an organisation that wants to be competitive, as it is necessary to stay ahead of the leading companies in development.

Scientist Baldassarre, in his work “How Digital Transformation is Changing Business Models and Entrepreneurship”, argues that introducing digital technologies into any business process is complex [9]. First, it is necessary to identify an effective business model, which can be enhanced by digital technologies to generate high-profit margins and expand the scope of services and products. The next step is to choose which digital technology will be implemented. Thus, it is necessary to choose a technology that would be easy to implement and whose costs would be justified by the future profit generated by its use. The next stage involves digital innovation, a set of digital solutions for business development. This is followed by digital transformation, which allows us to talk about a single digital space in the organisation. Finally, there is the digital environment, where each business process is subordinated to another based on digital technologies.

In his article “The Impact of Digital Transformation on Business Models and Competitive Advantage”, Agustian et al. emphasises that digital transformation has a significant impact on an organisation's existing business model [12]. In particular, the consumer value of products begins to grow, the number of partners increases, the company's resource base grows, sales channels grow, and the company's ability to adapt increases.

Therefore, the analysed scientific base is sufficient for the study. The sources fully reveal the task at hand.

The study aims to reveal the impact of digital transformation on the efficiency of business processes. Its purpose is driven by the growing level of globalisation in the international business world, which affects the prevalence of information technology in business.

METHODS

The study used the following research methods: description, comparison, analysis and synthesis, literature analysis, and generalisation.

The article reveals the impact of digital transformation on the efficiency of business processes. It describes the essence of the concept of “digital transformation”. It characterises the main factors of influence on modern business processes and identifies trends in the business world. The scientific works on the research topic are analysed, the author's positions on the impact of digital technologies on business processes are highlighted, and the source base of the study is substantiated.

The main directions of digital transformation of the business environment are considered. The trends in the use of cloud technologies, digital services, data collection and analysis, and digital networks in companies' business processes are identified. The main advantages of using these technologies in the business environment are identified.

The costs of introducing digital technologies in Ukrainian companies' business processes are analysed. The directions for implementing digital transformations in Ukrainian companies' business processes in 2023 (in %) are considered. The trends of digital transformation in the business processes of domestic enterprises are identified.

RESULTS

Digital transformations in business processes involve incorporating information technology into the organisation's ongoing activities, which fundamentally affects the functioning of its core and ancillary business processes. This transforms not only routine activities but also strategic decision-making. Accordingly, the digital culture is changing, as specialists are also focusing on information technology in their activities, so the company is beginning to form a particular image with the help of digital technologies.

Digital transformation in business processes primarily aims to increase the company's competitiveness. An enterprise that uses information technology can quickly adapt to a changing external environment, automate key business processes, reduce costs and production time, and reduce resource consumption to achieve the desired goals. Therefore, the introduction of digital technologies helps to reduce the company's costs and increase the organisation's productivity at the same time.

Digital transformation mainly involves companies using cloud technologies. Today, almost all companies use cloud technologies in their operations, as storing information on a server is a safe way to prolong its existence and protects data from destruction or damage. Consequently, the costs of creating new information products or implementing those that would serve as a data storage facility are reduced. Such virtual storage is essential for large companies that process large amounts of information, so cloud technologies help to preserve confidential information.

Digital transformation is also reflected in data collection and analysis. The technology involves monitoring sources and various databases in order to obtain the maximum amount of information about something that allows for changing existing business processes. At the same time, using new information technologies for data analysis allows for timely data correlation and finding the best management solution.

A digital service is a set of online platforms that combine different business processes in one space. Working in a single environment, specialists and company executives can see the functioning of several areas of activity and make timely decisions. In particular, if a manager plans to expand the number of target customers working in such a service, he or she can see the available quantity of products in warehouses and their parameters, the nearest delivery points, and planned production volumes so he or she can provide the customer with timely information and interest.

In addition to the above-mentioned digital transformation tools, building a digital network is also an effective tool. A digital network is a local information system that operates only on the devices of the company's employees or only within the organisation's location. In this case, only authorised persons can access the network, which helps prevent information leakage and preserve data confidentiality. Accordingly, the organisation applies additional virtual security measures, and customers remain confident that others will not obtain their information.

The introduction of digital technologies requires companies to incur significant costs, which are subsequently offset by increased profits. According to the statistics of the online publication Vox Ukraine, companies in Ukraine spent the following amounts of money on digitalising business processes in 2018-2023 (amounts in billions of dollars) [7].

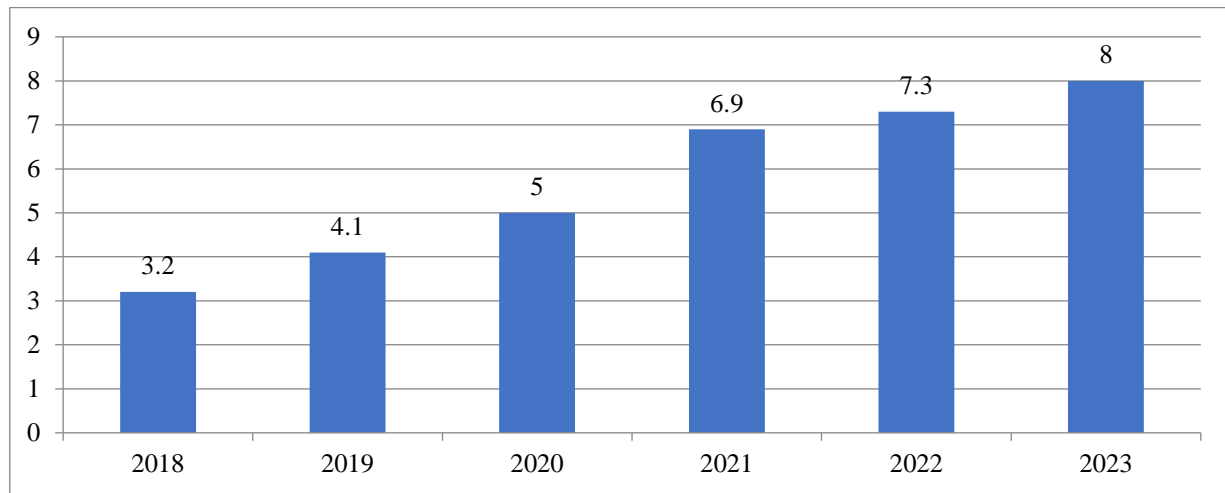


Figure 1. Expenditures of Ukrainian companies on implementing digital technologies in business processes (amounts to billions of dollars)

Source: IT Research Ukraine [15]

These results indicate that the costs of domestic business introducing information technology in the main functioning processes increase annually. This suggests that digital transformation is effective in the main areas of activity, as the number of customers increased, sales grew, and product sales increased.

The following figure (in %) is useful for illustrating the goals for which digital transformations were implemented in business processes in 2023.

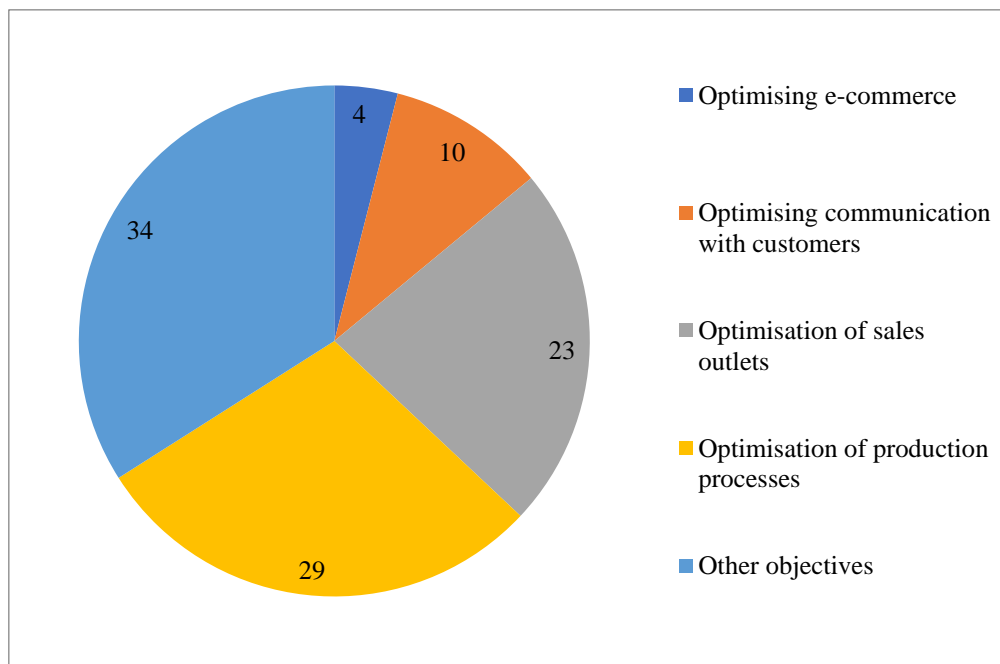


Figure 2. Areas of digital transformation in business processes of Ukrainian companies in 2023 (in %)

Source: IMD World Digital Competitiveness Ranking [16]

Therefore, digital transformation is aimed at various business processes, which allows us to talk about the effectiveness of virtual technologies for various areas of society. Information technologies have the most significant impact on production processes, as automation of the manufacturing process and adding digital technologies to routine work speed up the workflow. At the same time, adding digital technologies to finding places to sell products is equally important.

Today, a business process is a complex phenomenon that requires division into many components. For instance, the components of a business process are needs, organisational policy, customer satisfaction assessment, logistics, CRM system, resources, products and information services, people, business process analysis, and business process manager. This can be demonstrated in Figure 3.

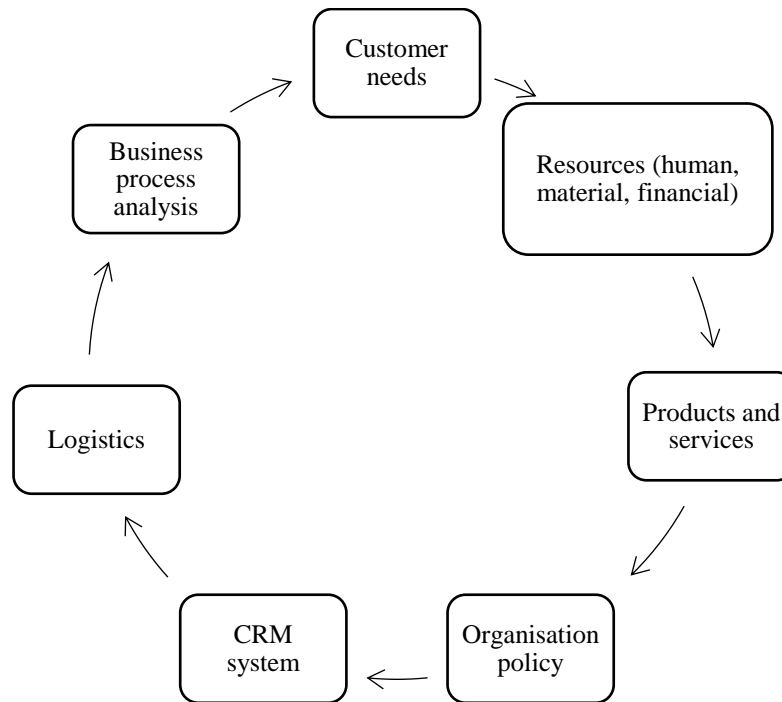


Figure 2. Business process components

Source: Wikipedia [17]

Business processes at the current stage cannot function without CRM systems. These services store corporate information and facilitate the movement of information over a local network. Thus, the most popular CRM systems operating in the business environment include the following.

Zoho CRM is a system for large, medium, and small businesses. It is used in finance, real estate, trade, car sales, and education. The system's advantages include the ability to store customer contacts and categorise customers, view the stages of a transaction, and add emails and social networks. The system has a voice assistant.

Salesforce is used in education, marketing, healthcare, and automotive trade. The system adapts to the organisation's work, i.e., to the pace of sales, and can, therefore, recommend improving efficiency in certain processes. The programme allows you to enable and disable certain functions. It automatically generates reports, allows you to monitor transaction execution, and facilitates the connection of other business services.

Zendesk is a system most often used by public authorities, media, and transport companies. The programme is aimed at organising business processes related to customer communication. In particular, it allows for storing customer data, responding to customer requests, and monitoring the execution of transactions. The software uses artificial intelligence systems to categorise customers.

Pipedrive. This system is characterised by a simple interface and flexible process management tools, so it can be tailored to any business. The system not only provides information on the stage of the deal and its progress but also

allows for setting priorities for each deal. Accordingly, it is easier for a manager to categorise agreements into specific types and choose to execute an agreement only concerning a specific priority action. The programme provides automatic reminders to fulfil the obligation.

HubSpot. The system is designed to establish interaction with customers. It is suitable for searching for potential customers, working with clients, tracking sales, and closing deals. It can be integrated with other services and social networks to simplify communication with customers. The software saves chats with customers, so you can see the topic of communication, the duration of communication, and the stage of problem resolution. Based on the programme data, it is easy to evaluate managers' performance.

Creatio. This system is also designed for customer interaction. However, its main advantage is that it is a new system, so it considers the latest trends in setting up algorithms for finding potential clients. The programme displays the total number of clients, the number of clients of a particular manager, the number of planned transactions per day, the number of completed transactions, and the number of successful transactions. The side panel of the system contains graphs and diagrams that, based on the results of interaction with clients, reflect the company's success, each employee's productivity, and the effectiveness of achieving particular goals. The data is displayed in both quantity and monetary terms, as well as as a percentage. The system also uses scales similar to and visually appealing to a car speedometer. Therefore, the system has an exciting and intuitive interface that quickly optimises the company's performance.

In addition to these systems, there are others on the market, but these are the main ones. They provide essential tools for the functioning of business processes, allowing for setting up a business environment.

Therefore, at the current stage of information technology development, we can discuss the following trends in digital transformation in terms of the efficiency of Ukrainian companies' business processes.

Table 1. Digital transformation trends in terms of the efficiency of business processes of Ukrainian companies

| Trend | The essence of the trend |
|---|---|
| Increased costs of implementing digital technologies | Over the past 6 years, there has been a clear trend towards an increase in the company's expenditures on the introduction of new information technologies in the company. |
| Using digital technologies in production processes | The use of information technology allows us to automate production and improve product quality |
| Growth of digital transformation indicators in 2021 | In 2021, compared to 2020, spending on digital innovations increased by \$1.9 billion, reflecting the sharp adoption of the following technologies |
| Low rate of e-commerce optimisation | Only 4% of Ukrainian companies use digital technologies to improve e-commerce processes. |
| Use of digital technologies for core business processes | Most companies use information technology for core business activities, while others are performed in a traditional way |
| Using only specific digital tools | Companies mainly use 1-2 digital technology tools, which is related to the cost and complexity of implementation |
| Lagging behind the level of digital transformation of leading countries | Ukrainian companies are rapidly introducing digital technologies into their business processes, but they are still lagging behind their foreign counterparts |

Source: compiled by the author

Therefore, we can now discuss both the weaknesses of digitalisation in business processes and positive trends. However, this only shows the importance of careful consideration of this issue.

DISCUSSION

The impact of digital transformation on the efficiency of business processes is currently quite controversial. In particular, such researchers as Arsawan et al. [18], Chen [19], Guo [20], Lozić [21], Polous [22] are confident that digital transformation in Ukrainian companies is happening quite quickly. This suggests that each company improves its activities with the help of information technology, which allows it to be competitive and enter the international market. Accordingly, the efficiency of business processes is constantly growing.

At the same time, such researchers as Bala [23], Czerska [24], Durica [25], Wu [26] are convinced that digital transformation in Ukraine and other countries is insufficient. Accordingly, only certain digital technologies have been introduced into business processes to facilitate the management of the main activities. Information technologies have not been introduced into additional business processes, which slows the development of the business environment in general. At the same time, researchers note that this is a problem not only for Ukrainian companies but also for foreign ones, so the issue of digital transformation remains unresolved today.

Scientists Gudergan and Mugge [27], Wang [28] argue that the impact of digital transformation on the efficiency of business processes is conditional. In some cases, companies improve productivity by introducing information technology. However, companies do not consistently achieve the desired performance and remain unchanged.

Therefore, it can be said that researchers do not share a vision of digital technologies' impact on business process efficiency. Given this, we can define our recommendations for implementing digital transformation in business processes. These include introducing digital technologies into core and auxiliary business processes, improving the digital culture of specialists through special training and professional development activities, conducting an information campaign on digital transformation as a phenomenon, and teaching in higher education institutions based on new digital technologies.

CONCLUSION

The article discusses the impact of digital transformation on the efficiency of business processes. Various domestic and foreign researchers consider digital transformation a phenomenon. In their works, they pay attention to the essence of the concept of "digital transformation", the peculiarities of its implementation, and the main directions of digital transformation in business.

The essence of the concept of "digital transformation" is clarified. It can be argued that digital transformation is a broad concept that includes introducing information technology at various levels of an organisation's activities. At the same time, digital technologies are also beginning to be applied to ancillary operations. Globalisation has influenced businesses to use more information technology, as it has allowed them to become competitive and adapt to the new business environment.

The main directions for using digital technologies in Ukrainian companies' business processes were identified. These include technologies such as cloud, digital services, data collection and analysis, and digital networks. Companies often use these technologies, but they can also be combined with other technologies.

The digital transformation in the business processes of Ukrainian companies is analysed. It is determined that domestic companies are increasingly spending more money on introducing digital technologies. In addition, digital technologies are actively used in production processes. However, domestic companies often use information technologies to optimise the functioning of the main processes while additional ones remain unchanged.

Thus, digital transformation significantly impacts the efficiency of business processes. To improve business performance, it is recommended to introduce digital technologies into core and auxiliary business processes, improve the digital culture of specialists, conduct an information campaign on digital transformation as a phenomenon, and conduct training in higher education institutions based on new digital technologies. All this will significantly improve the efficiency of business processes with the assistance of digital technologies.

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