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On the question of the role of project management in the digital transformation of small and medium-sized businesses: essence and innovative potential

Sobre la cuestión del papel de la gestión de proyectos en la transformación digital de las pequeñas y medianas empresas: esencia y potencial innovador

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Abstract

Digital transformation is penetrating all areas of activities. This process is irreversible and poses challenges to businesses. The leading role for the successful digital transformation of small and medium-sized businesses is played by effective project management. The purpose of the article is to study the role of project management in the digital transformation of small and medium-sized businesses, to identify the key issues and the scenario of transformation, to outline the portrait of a project manager. Methods used: analysis⁶ synthesis, graphic methods, the method of establishing cause-and-effect relationships. As a research result, theoretical aspects of project management and trends in understanding its role in the digital transformation of businesses were determined. The key questions for project management are outlined and its scenario is defined. The key skills and qualities of an

Resumen

La transformación digital está penetrando en todos los ámbitos de actividad. Este proceso es irreversible y plantea retos a las empresas. El papel principal para el éxito de la transformación digital de las pequeñas y medianas empresas lo desempeña una gestión de proyectos eficaz. El objetivo del artículo es estudiar el papel de la gestión de proyectos en la transformación digital de las pequeñas y medianas empresas, identificar las cuestiones clave y el escenario de la transformación, y esbozar el retrato de un gestor de proyectos. Métodos utilizados: análisis⁶ síntesis, métodos gráficos, el método de establecer relaciones causa-efecto. Como resultado de la investigación, se determinaron los aspectos teóricos de la gestión de proyectos y las tendencias para comprender su papel en la transformación digital de las empresas. Se esbozan las cuestiones clave de la gestión de proyectos y se define su

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effective project manager are described. The innovative potential of project management is considered. The scientific novelty of the research consists in clarifying the aspects necessary for effective project management, taking into account the trends in economic and sustainable development. The practical significance of the research results lies in outlining the areas of activity and improving the professional and extra-professional skills of project managers in the process of digital transformation.

Keywords: management, organization, soft skills, hard skills, sustainable development.

Introduction

At the current stage of development, the management of any organization must meet the challenges formed by the globalization processes in the economy. One of these challenges is the ubiquitous and unalter native digital transformation, which is both a way of optimizing businesses and a difficult and complex task for their management. Digital transformation cannot happen immediately, its process requires a significant time investment and a phased and experienced implementation. The responsibility for the successful implementation of digital transformation lies with all participants in the process: the government, organizational leaders, managers, stakeholders, consumers, etc.

A special role in the digital transformation process is assigned to project management as one of the innovative management methods. Digitalization of business activities can be regarded as a large-scale project, which has a final goal, stages, time constraints, and, therefore, is an object of management for project managers. Of particular importance is the digital transformation of small and medium-sized businesses, which in developed countries are among the main drivers of the economy, provide a large number of jobs, and are the most adaptive, mobile, and innovative business units.

The active process of digital transformation is reflected in numerous works of Ukrainian and foreign researchers. Strutynska (2020) and Garzoni et al., (2020) in their studies point to the need for digital transformation and propose certain scenarios or projects to facilitate its implementation in the activities of small and medium-sized businesses. The theoretical foundations of digital transformation are

escenario. Se describen las habilidades y cualidades clave de un gestor de proyectos eficaz. Se considera el potencial innovador de la gestión de proyectos. La novedad científica de la investigación consiste en aclarar los aspectos necesarios para una gestión de proyectos eficaz, teniendo en cuenta las tendencias del desarrollo económico y sostenible. La importancia práctica de los resultados de la investigación radica en perfilar las áreas de actividad y mejorar las competencias profesionales y extraprofesionales de los gestores de proyectos en el proceso de transformación digital.

Palabras clave: gestión, organización, habilidades blandas, habilidades duras, desarrollo sostenible.

considered in the works of Vial (2021) and Ebert and Duarte (2018), where digital transformation is primarily linked to the implementation of the latest technologies in the activities of businesses. However, some works aim to explore recent developments in the understanding of the digital transformation process, in particular, Nadkarni and Pruegle (2021) emphasize that digital transformation is not only about the application of innovative technologies, but also about the effective management of the process. That is recent trends in understanding digital transformation and defining criteria for its success bring the human factor of the process to the forefront. First of all, this applies to the management of digital transformation by project managers, because, as noted earlier, the digital transformation of a single business can be seen as a project that requires successful management, setting goals, defining time limits, budget, milestones, etc.

There are also many works devoted to the study of project management. Gasemagha and Kowang (2021) note the key role of project managers in the success of any project as a whole. Henkel et al., (2019) note that the most important trait of a project manager is the ability to build relationships between project implementers, communication, and leadership skills. Alvarenga et al., (2019) note the need for technical skills in project managers, but also emphasize that they are not crucial for members of the profession.

Stjepić et al., (2020) is one of the few researchers who note the importance of the connection between an organization's management, its leaders, all stakeholders, and digital transformation. However, it should be noted that the own role of project management in the digital

transformation of small and medium-sized businesses in the works of scientists is considered extremely fragmented, as researchers usually focus on one of the aspects under study - either the process of digital transformation or the basis of project management. Therefore, an important scientific issue is the study of these aspects in their combination, because, as mentioned above, digital transformation is not limited to new technologies: the leading role in its successful implementation is played by the factor of effective management of the process by specialists with the appropriate qualifications and relevant skills.

The purpose of the article is to investigate the role of project management in the digital transformation of small and medium-sized businesses, to identify key issues and the scenario of this transformation, and to define a portrait of a modern project manager.

Achievement of the objectives requires the following tasks: to conduct a theoretical study of the aspects of project management and identify current trends in understanding its role in the digital transformation of businesses; to identify key issues of project management and the main directions of implementation of the digital transformation of business processes; to reveal the innovative potential of project management in the digital transformation of small and medium businesses by comparing the results of the study and the views of scientists.

Literature Review

The rapid development of transformation processes, constant changes in trends, and the importance of improving quality in all spheres of life and activities of people cause a high scientific interest in the topic under study. Strutynska (2020) devoted her Ph.D. thesis to the study of digital transformation as an imperative for the innovative development of business structures. The scientist defined the theoretical and applied foundations of digital transformation, its current state, problems, and prospects. The work focuses on the digital transformation of small and medium-sized businesses.

Garzoni et al., (2020) developed their own project to promote the digital transformation of small and medium-sized businesses. The project was created for the Italian region and funded by the Italian Ministry of Economic Development. The main goal of the project is to increase the interest of small and medium-sized businesses in

digital transformation and to further highlight the most interested among them.

Ebert and Duarte (2018) foresee a rapid pace of digital transformation and its penetration into all areas of the economy, but the researchers acknowledge the many obstacles in its path, from which they conclude that digital transformation can both stimulate and hinder the development of businesses.

Many researchers recognize that digital transformation today is not just a process of adopting the latest technologies. In fact, the digital transformation of business operations must be combined with experienced management of this process by the management of organizations (Nadkarni & Prügl, 2021). Vial (2021) emphasizes that technology alone is not the main component of the digital transformation process. Its success must first and foremost be ensured through an effective strategy, organization, and company culture.

The reviewed studies are only a small part of the total volume of scientific work on the digital transformation of businesses. The active interest of scientists in digital transformation tends to increase further due to the rapid changes in the field of growth of its importance for the economy and business. This underscores the relevance of the topic of the article and stimulates further steps in its development from a scientific point of view.

Methodology

During the study, the following scientific methods were used: the method of analysis and synthesis in the study of theoretical aspects of the issue under study and current trends in its understanding, graphic methods to visualize and structure the results obtained, the method of establishing cause-effect relationships in the determination of relationships and dependence between the concepts under study.

The complex nature of the research requires its distribution into separate stages. At the first stage, a theoretical study of the aspects of project management was conducted and current trends in understanding its role in the digital transformation of business were considered. This stage substantiates the necessity of project management in the effective provision of the process of digital transformation of small and medium-sized businesses. The exceptional role of small and medium-sized businesses in the economic processes of the country was

explained, and the criteria for their success compared to other business units in the implementation of digital transformation were defined. The definitions of the key concepts under study, in a particular project, project management, and digital transformation, are provided.

The second stage of the study establishes the main directions of digital transformation of small and medium-sized businesses, in particular outlines its scenario, and agrees on the key issues of project management arising in the course of digital transformation. In addition, the portrait of modern project management is characterized in terms of defining the skills it must possess in order to succeed in the process of digital transformation.

The final stage reveals the innovative potential of project management in the digital transformation of small and medium-sized businesses by comparing the results of the study and the views of scholars. In addition, ways to further expand and unlock the innovative potential of project management through the combination of its principles with the principles of sustainable development are identified.

Results and Discussion

A theoretical study of the aspects of project management. Current trends in understanding its role in the digital transformation of businesses

Project management is a relatively new method of management, but in the short period of its existence, it has already proved the effectiveness of its implementation in the general management system of organizations. Many modern businesses concentrate their activities around the execution and management of individual projects: building apartment complexes, developing software, writing, and publishing scientific or artistic works are all examples of projects that require experienced management.

Project management is widespread in virtually all areas of goods and services production, particularly in information technology (IT). Project manager in IT companies is an extremely in-demand profession because it is the experience, the ability to organize the process and its performers, leadership and personal qualities, and other skills of such specialists that determine the success of projects in general. It follows that project management, as an innovative method of management, often goes

hand in hand with the digital transformation of businesses, the economy, and the state as a whole.

As we know, small and medium-sized businesses are the most flexible, mobile, adaptive, and innovative enterprises. Small and medium-sized businesses are important for the sustainable development of the economy and play a significant role in enhancing a country's innovation potential and export growth. In developed countries, the share of small and medium-sized enterprises is 95%, and they provide about 50% of GDP, most jobs, and 25% of exports. In the context of the digital transformation of the economy, small and medium-sized businesses must understand the opportunities and benefits of digitalization in their activities; be client-oriented; apply data effectively; adopt an innovative way of thinking; restructure their business models according to modern requirements; and make investments in specialists in order to maintain and increase competitiveness (Strutynska, 2020).

Given all of the above, it can be argued that the study of the role, essence, and potential of project management in relation to the digital transformation of small and medium-sized businesses, taking into account the possibility of achieving maximum efficiency in this area is an extremely timely and relevant issue.

The role of project management in the digital transformation of small and medium-sized businesses is a complex and multidimensional issue, therefore, the study of its essence should begin with the establishment of definitions of its individual components, as well as current trends in changing the trend of their understanding.

The definition of the project itself varies in its essential characteristics in the works of researchers. However, its most commonly used definitions most often contain the presence of quantitative and qualitative goals, a number of comprehensive measures to achieve these goals, as well as clearly defined boundaries of the beginning and end of the project (Tereso et al., 2019). Thus, a project can be defined as the creation of a particular unique product or service within a predetermined time frame and resources. Project management involves the use of processes, methods, skills, knowledge, and expertise to achieve certain project goals according to project eligibility criteria within agreed-upon parameters. Project management has outcomes that are limited by project time and budget (Murray-Webster & Dalcher, 2019).

In turn, digital transformation encompasses significant changes specific to society, the economy, and other industries through the use of digital technology (Vial, 2021). Digital transformation is the introduction of disruptive technologies to improve productivity, value creation of goods and services, and social well-being. Digital transformation is predicted to have a high growth rate and rapid penetration in industries, but there are also certain barriers to it, such as heterogeneous or inadequate structures and culture of companies, lack of well-defined strategies, shortage of skilled labor, lack of appropriate employee skills, inadequate consumer regulations, lack of funding, in particular for small and medium businesses (Ebert & Duarte, 2018). Thus, digital transformation, defined as the transformation with respect to the changes that modern digital technologies bring to companies' business models, products, and organizational structures, is one of the most common challenges for today's management of existing businesses. Digital capabilities must come together with skilled workers and organizational leaders to unleash their transformational power (Nadkarni & Prügl, 2021).

Recent research has led to a change in the understanding of certain aspects of digital transformation. In particular, regarding transformation through IT, it was found that technology is not the main aspect of the transition to an innovative way of doing business and maintaining competitiveness, but only part of this process. In addition to the technology itself, strategy, organizational and structural change, as well as organizational culture, play an important role (Vial, 2021). From this, we can conclude that the successful digital transformation of businesses, including small and medium-sized ones, is impossible without competent and experienced management, in particular project management, development of effective strategies, organization of the process and motivation of personnel, enhancement of corporate culture, etc.

Project managers are entrusted with many functions, fulfillment of which allows to carry out and complete projects in a quality manner in accordance with the set requirements and expectations of customers within the predetermined timeframe and budget. Therefore, the project manager must be proficient in the relevant knowledge and skills to use the methods and techniques that the project needs and manage, such as planning, budgeting, analytical

skills, etc. However, the most important task of a project manager is the ability to organize and manage the interaction of project implementers (team) in order to achieve maximum efficiency in the project work (Henkel et al., 2019).

So, the project manager is responsible for time management, cost, quality, project integration, team members, communication, risks, and assets. Thus, the success of project execution and delivery depends primarily on the project manager (Gasemagha, & Kowang, 2021).

Digital transformation of business processes: key issues of project management and the main directions of implementation

The key questions that an organization, particularly its project management, needs to answer are:

- How to adapt to new trends in digitalization;
- How to identify new opportunities and scenarios for business development;
- How to start the process of digital transformation;
- How to attract new talent from the market;
- How to start change management;
- How to convince stakeholders to support the idea;
- How to start funding and managing digital transformation projects;
- How to help employees and business partners integrate into the process through digital means (Maheshwari, 2019).

The answers to these questions depend on the specifics of the business, the scope of the business, the specific stakeholders and participants in the process. To effectively address these issues, a project manager should have, as mentioned above, confident communication and leadership skills, managerial and organizational skills, as well as sufficient knowledge of technology to understand customer requirements, user needs, goal setting for performers, effective process design, in general. Most often all the above skills are divided into so-called soft skills (soft skills) and hard skills (technical skills). Soft skills are super professional skills, i.e., such qualities which are not directly related to the profession but can play a decisive role in successful professional activities. They are the ability to find a common language with people, resolve conflicts, leadership qualities, etc. Figure 1 shows the key soft skills required for a project manager.



Fig. 1. Soft skills, necessary for the successful professional activities of a project manager (Zuo et al., 2018)

Hard skills, or technical skills, although according to many researchers do not play the main role in the project manager profession (Alvarenga et al., 2019), are also a prerequisite for their professional development. Specific technical skills required by a project manager

depend on the business area, but in general, during the digital transformation of an organization's business processes, a specialist must navigate the following basic digital transformation engines (Fig. 2).

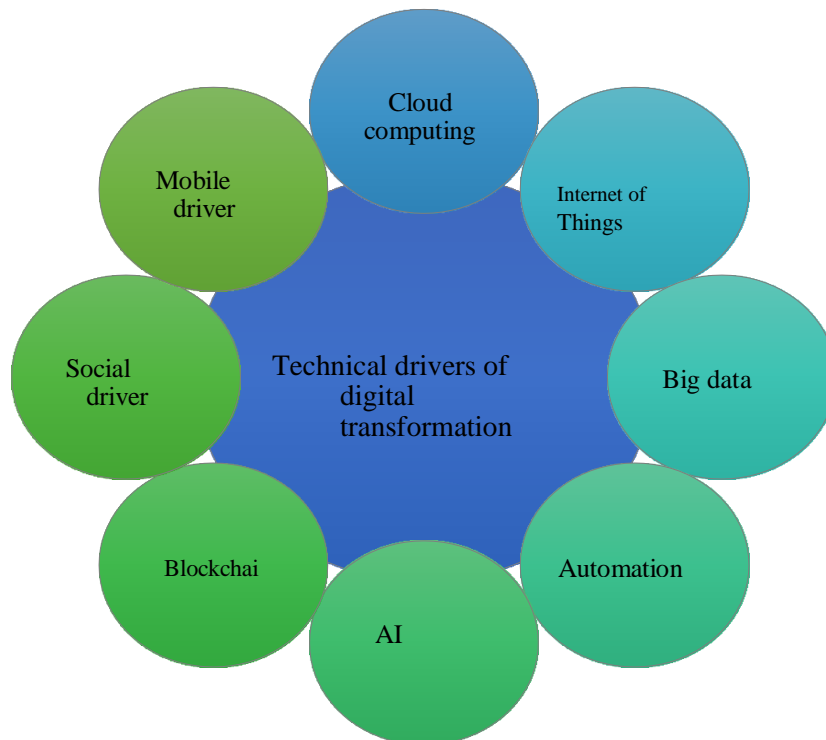


Fig. 2. Technical drivers of digital transformation (Maheshwari, 2019).

Cloud computing technologies offer flexibility and scalability at such a high level that they make them a prerequisite for all digital transformation strategies (Lambropoulos et al., 2021).

The structure of the Industrial Internet includes infrastructure, technologies, and programs that bridge the gap between the real industrial world and the virtual world (Borangu et al., 2019).

By implementing extensive data, businesses can become data-driven organizations to update their marketing programs by collecting large amounts of structured and unstructured data (Miklosik & Evans, 2020).

Automation consists of transferring manual and repetitive tasks from humans to robots (programs) (Maheshwari, 2019).

Artificial intelligence refers to a machine's ability to learn from experience, adapt to new input data, and perform human tasks (Kitsios, & Kamariotou, 2021).

Blockchain technology offers the following benefits: increased security, fast transactions,

decentralization, immutability, transparency, and trust (Merkaš et al., 2020). Simply put, a blockchain is a distributed ledger that provides a way for a community to record and share information, in which each participant maintains his or her own copy of the information, and all participants must check for updates. Information refers to transactions, contracts, assets, identities, etc. (Grech & Camilleri, 2017).

The social driver contains the transformation of relationship building and information discovery within and outside the enterprise. The mobile driver consists of transforming how people interact, use information and services, and collaborate (Maheshwari, 2019).

The transition to a digital way of doing things cannot be realized immediately, it is a gradual process in which it must be adapted to the specific business environment as well as appropriately perceived by the organization's employees. For this purpose, project management must provide an effective and realistic scenario for the digital transformation of businesses, including small and medium-sized ones (Fig. 3).

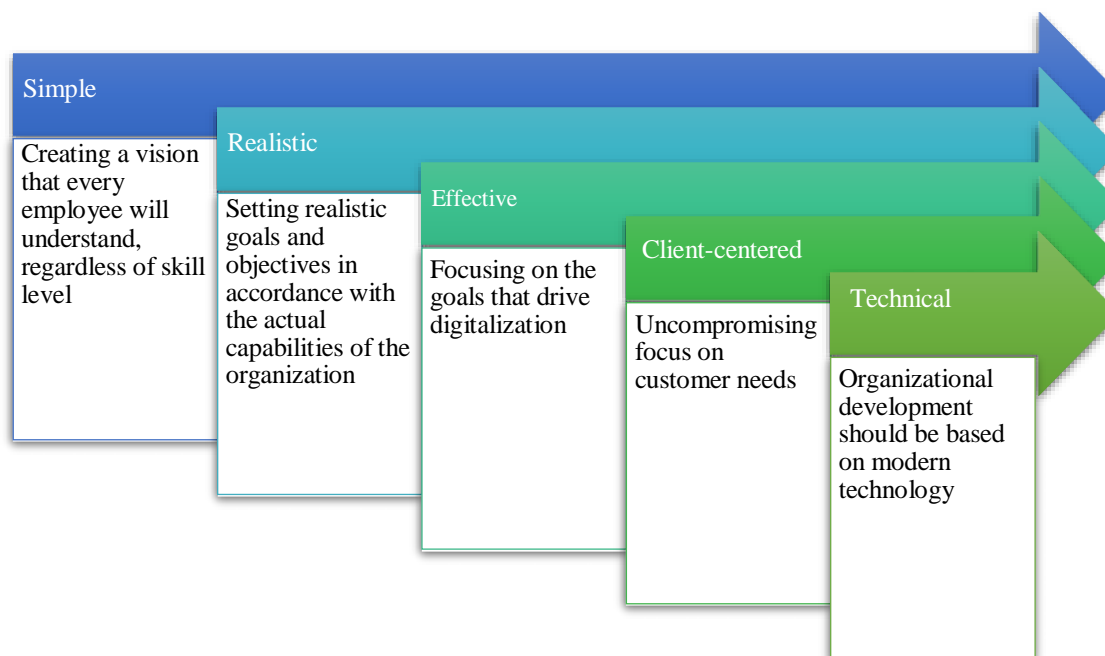


Fig. 3. Scenario of digital development of small and medium-sized businesses (Strutynska, 2020)

The analysis of Figure 3 confirms the view developed in the previous section that digital transformation is not only about introducing innovative technologies but also about organizing such a process, developing plans, scenarios, strategies, team coordination - that is, the very tasks that project managers are charged

with. In addition, during the combination of business processes with digital transformation, other actors are involved, including internal and external stakeholders, customers, technical director, process management managers, etc. (Stjepić et al., 2020), which requires project managers to have high diplomatic skills, the

ability to collaborate and reach a mutual agreement with all participants in the process.

To summarize the above, a successful digital transformation of small and medium-sized businesses largely depends on successful project

management, whose tasks should be: organizing the transformation process, ensuring effective communication between the participants in the process, and managing technical changes (Fig. 4).

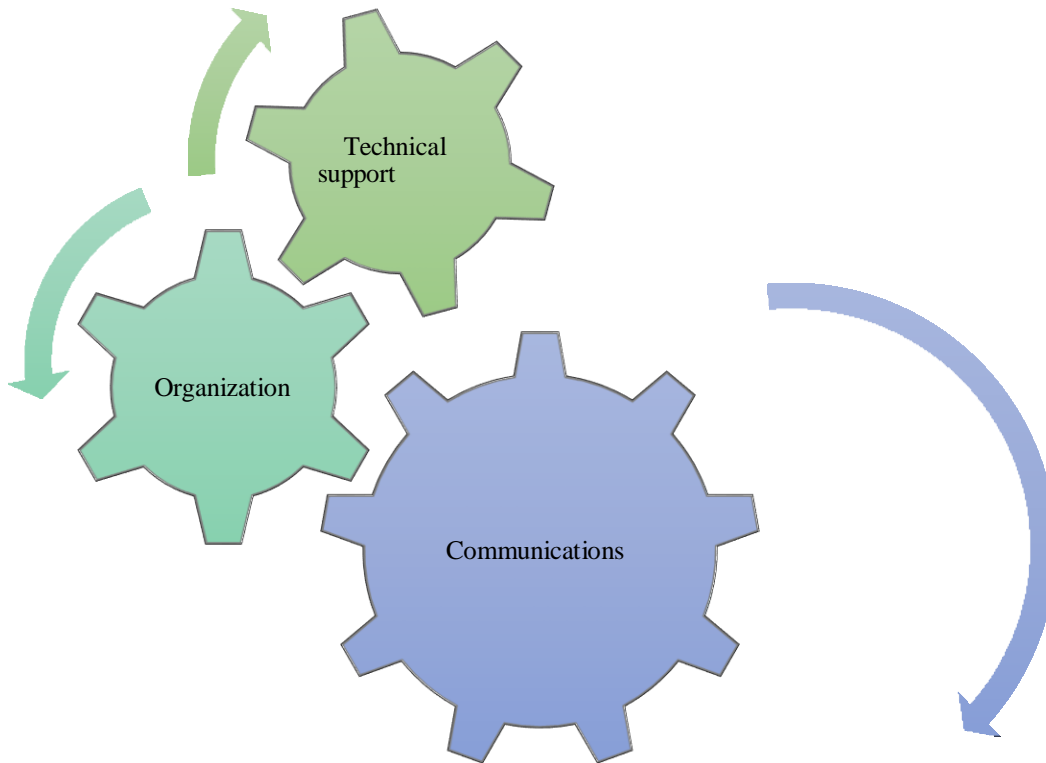


Fig. 4. The main directions of project management in the course of digital transformation of small and medium-sized businesses.

Thus, project management in the process of digital business transformation is a specific mechanism that provides this process in three interrelated areas.

The innovative potential of project management in the digital transformation of small and medium-sized businesses: a comparison of the results of the study and the views of scientists

The study identified the role, key issues, and main directions of project management in the digital transformation of small and medium-sized businesses and described the scenario of such transformation. It was found that digital transformation is a gradual process, requiring a breakdown into stages. The views of most researchers agree with this approach, but some of them are of the opinion that in order to unlock the innovative potential of project management in the digital transformation of businesses to the full, before the digitalization proper, it is

advisable to implement projects which, first, will increase the interest of small and medium businesses in digitalization, and second, will highlight from all organizations involved in the project those that are most interested and have the highest potential. Such projects concern, first of all, the state support of digital transformation, because they should be implemented at the initiative of the national government. For example, Garzoni et al. (2020) have developed their own four-level approach called Smart District 4.0, which promotes the digital transformation of small and medium-sized businesses with different levels of involvement and impact of transformation (the object of the study was the Puglia region in Italy; the project was funded by the Italian Ministry of Economic Development). The four levels highlighted by the researchers promote the interest of small and medium-sized businesses in the digital transformation and identify the most interested among them and are as follows:

1. Digital Awareness: builds on SMBs' awareness of digital transformation opportunities. Provides information about the project and collecting subscriptions through calls and live meetings.
2. Digital inquiries: at this level, technology solutions are presented in terms of functionality and opportunities to attract the attention of small and medium-sized businesses (means: working sessions, workshops, focus groups, etc.).
3. Digital collaboration: based on their interests, companies participate in research on the potential benefits of digitalization in their business processes and strategies.
4. Digital Transformation: This is the level of the highest attraction that a limited number of interested small and medium-sized businesses see. At this level, they have a strong interest in the digitization process, and this can be the core set of the project (Garzoni, et al., 2020).

Although the project was developed for a particular region, its main ideas can be used and successfully implemented, in particular through effective project management, in virtually any country.

Ukraine is also taking steps to implement and state support for digital transformation. The government has approved the Order № 67-r "On Approval of the Concept of development of the Digital Economy and Society of Ukraine for 2018-2020 and the Approval of the Action Plan for its Implementation" (2018), as well as the digital government portal Action (Diya, 2022), which pays special attention to supporting the creation and running of small and medium businesses. Thus, in order to unlock their innovative potential and take advantage of all the opportunities of government support for businesses, project managers beyond the other must be aware of the latest legislative changes, trends in government policy, and understand the legal aspects of the issue.

However, the innovative potential of project management in the digital transformation of business does not stop there. In particular, researchers are now inclined to consider project management and its role in the digitalization process from the perspective of sustainability, the key objective of which is not only to ensure the growth of company value or high revenues but also to balance economic efficiency, social impact, and ecology. This fact has led to the emergence of the concept of sustainable project management, operating from the following

principles: reflecting all perspectives of sustainability rather than company enrichment; considering the entire project cycle and results from a sustainability perspective; involving stakeholders in management; promoting sustainability for both the organization and society (Stanitsas et al., 2021).

With all of the above in mind, it can be summarized that the digital transformation of small and medium-sized businesses is a gradual, complex, multi-step process, the leading role in the success of which is played by successful project management. The effectiveness of project management depends on a number of factors, in particular, the project manager should have developed communication skills (including leadership qualities, the ability to establish team relations, the ability to resolve conflicts, etc.), organizational skills, strong technical skills, as well as decisions, developments in the world and the economy. The full innovative potential of project management can be unlocked by applying the principles of sustainable development in accordance with the latest trends in the world.

Conclusions

As a result of the study, the theoretical aspects of project management in the process of digital transformation of small and medium-sized businesses were defined. In particular, the concept of the project, project management, and digital transformation were clarified, and the own role of project management in the process of digital transformation was defined.

Aspects of the digital transformation of business processes were established: the issues of project management in the process of transformation, its scenario, the key skills of project managers necessary for the successful implementation of the transformation. It is established that a project manager should have soft skills, which can include communication skills, in particular leadership qualities, the ability to build teamwork, communicate with stakeholders and customers, resolve conflicts and other skills, organizational skills, consisting in ineffective process management, as well as deep technical knowledge.

In addition, the project manager must be aware of the latest trends in politics and economics in order to effectively leverage government support for the digital transformation of businesses. In addition, the innovative potential of project management can be expanded by its focus on the

principles of sustainable development, which includes the inclusion of not only the tasks to increase the market value of the company but also socially significant tasks and tasks of care for the environment in the activities of the project manager.

Prospects for further research are the definition of tasks and main directions of activity of sustainable project management itself, as well as, taking into account modern conditions of economic management, the definition of new challenges for project managers in the process of digital transformation in conditions of escalating military conflicts.

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