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THE ROLE OF FINANCIAL MANAGEMENT IN THE EFFECTIVENESS OF BUSINESS PROJECTS IN THE CONTEXT OF DIGITALIZATION

Abstract

Financial management plays an integral role in stimulating business growth. Effective financial management can help companies make strategic decisions regarding expansion plans, acquisitions, and investments in new projects or technologies. This allows businesses to allocate resources wisely and capitalize on opportunities that can drive their growth trajectory. Over the past 5 years, in the context of the emergence of stable competition in the market, companies have been looking for new ways and directions to increase the efficiency of their existence in the market for their own development. The business processes of companies in the context of modern development are influenced by many different factors, including digitalization. In the context of continual changes in regulatory requirements and norms inherent to the local economy, the necessity for consistent management, particularly in effectively planning the entire construction cycle, underscores the importance of organizing and overseeing execution. Consequently, there's a growing inclination within company management to adopt a process-oriented approach. Addressing this challenge necessitates a clear understanding of business processes, analysis, and optimization.

In the medium term, advancing the Republic of Kazakhstan's economic development and enhancing the populace's quality of life through the integration of digital technologies stand as primary objectives of the state policy, as outlined in the "Digital Kazakhstan" state program. Practically all sectors of the economy are being actively digitized in the country, which will lead to an increase in labor productivity and an increase in capitalization. The analysis showed that theoretical and practical developments in the field of improving the modeling of business processes of a company in the context of digitalization are not enough. In this regard, there is a problem of developing and ensuring effective technology and company strategy based on business process modeling, which will be versatile and systematic for use in organizations of the construction industry.

Key words: business, companies, projects, financial management, innovation, business process, strategy.

Introduction

In modern conditions of digitalization of business processes, many companies face challenges in organizing effective financial management. Although digital technologies open up new opportunities for automation and optimization of processes, many studies show that underestimating the importance of financial management leads to a decrease in the effectiveness of business projects.

The significance of conceptually defining a business process stems from the fact that any management system can only be constructed upon precisely defined entities that form part of this system. Within a company's process management framework, business processes serve as the focal point of investigation.

In contemporary contexts, the term "business process" finds extensive use in both economic and management theory and practice [1]. Consequently, various definitions of this term have emerged. Many scholars and researchers emphasize that the concept of a "business process" centers

around organizational processes. The model of functional hierarchical management, originating from the late 19th century and evolving since the early 20th century in developed nations, forms the foundation of this model, drawing from A. Smith's theories on the division of labor. The ideas of such managers as G. Ford, F. Taylor, and A.Sloan are considered particularly important merits in their application in practice [2].

The conducted research has shown that there is no single interpretation of the business process category, therefore, we will evaluate existing approaches to identify the essence of this category using the works of domestic and foreign scientists and economists.

The notion of "process orientation" was initially introduced by M. Porter, who highlighted the significance of interactions among various components within an organization's operations. He posited that it is within these interactions that value creation occurs [3]. E. Deming further contributed to the development of process orientation by emphasizing the relationships within the enterprise, extending from suppliers to buyers [4].

M. Hammer, renowned for his concept of business process reengineering, defined a "business process" as a structured sequence of interconnected activities. Additionally, Hammer and D. Champi emphasized the presence of valuable resources at the input stage of a product or service, which are transformed as outputs [5].

Oikhman E.G. and Popov E.V. described a business process as a comprehensive flow of events within a system, encapsulating the customer's journey from initiation to completion or restructuring of business usage [6].

According to O.C. Vikhansky and A.I. Naumov, a business process may encompass one, several, or multiple nested processes, culminating in the delivery of a completed project or service. Consequently, the outcome or result of a business process could be informational or tangible projects themselves [7].

In existing international financial reporting standards, a "business process" is defined as actions leading to the recognition and evaluation of identifiable assets and liabilities [8].

The concept of a business process is central to the process-oriented approach to management, gaining traction and widespread adoption. In this paradigm, the organization is viewed as a system of interconnected processes, offering the potential for competitive advantages when effectively utilized. V.B. Petrov defines a business process as a series of repetitive, sequential, interrelated actions (procedures), leveraging external resources to create value [9].

August-Wilhelm Scheer argues that a business process is a continuous series of tasks, their solution is performed to form an output and obtain the necessary result [10]. J. Becker considers a business process as a process that serves the implementation of the main goals of an enterprise (business goals) and describes the central sphere of its activity [11].

Taking into account the existing provisions in science, based on the views of scientists, in particular M. Hammer, D. Champi, E.Oihman, it is believed that the concepts of "process" and "sequence of actions" are identical in essence. Hence, every operation conducted within the company should be viewed either as the business process itself or as an essential component thereof. This is because each business process serves customers or consumers.

The previous studies above focus on the importance of organizational management and process reengineering. However, despite the active development of management theory, not enough attention is paid to the practical aspects of modeling business processes in the construction industry in the context of digitalization. Moreover, there is a lack of research assessing the impact of digitalization on financial management in the context of project management.

The purpose of this study is to analyze the impact of the financial management organization on the effectiveness of business projects in the context of digitalization. The research is aimed at identifying key factors affecting financial management in the construction industry and developing recommendations to improve the effectiveness of financial strategies.

Materials and methods of research

The object of the study is the construction companies of the Republic of Kazakhstan, actively implementing digital technologies in business process management.

To conduct the study, we used questionnaires from representatives of construction companies, which assessed the degree of implementation of financial management and its impact on organizational effectiveness. The main methods of analysis were correlation analysis to identify the relationship between financial management strategies and performance indicators, as well as regression analysis to assess the strength of the influence of various factors.

A structured questionnaire was employed to evaluate the impact and correlation between FMS (Financial Management Strategies) and POP (Project Organizational Performance). The questionnaire aimed to gather insights from respondents regarding their utilization levels of FMS and POP, employing a five-point Likert scale ranging from 1 (very low) to 5 (very high). The selection of a questionnaire as the research instrument was motivated by the necessity to elucidate the application of resource-based theory within the framework of financial management strategies implemented across diverse construction organizations.

Results and its discussion

In the current era of active digitalization, business processes can be redefined as follows: a business process encompasses a series of actions and tasks executed by skilled professionals, leveraging digital technologies such as software, websites, cloud storage solutions, mobile applications, and chatbots. The primary objectives of these processes include facilitating informed decision-making, expediting operations, automating workflows, and enhancing the company's competitiveness while incorporating prevalent innovations and industry trends.

Modeling an organization's business processes involves delineating inputs, outputs, utilized resources, and forms of influence, as depicted in Figure 1.

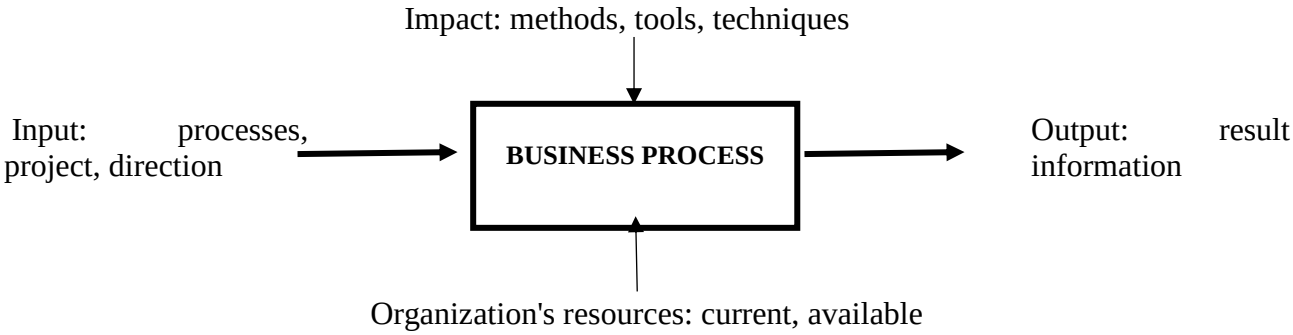

Figure 1 – General scheme of business process modeling in organizations

Note: Compiled by the authors based on the literature [12]

As mentioned earlier, enhancing the modeling of company business processes entails the utilization of suitable tools. Amidst the pervasive digitalization across all sectors and in the daily lives of the populace, modern tools directly aligned with digital technologies are particularly pertinent. These tools play a pivotal role in bolstering the efficiency of business processes.

We have categorized and explored the primary tools that can enhance the efficiency of business processes within the prevailing digitalization context, as depicted in Figure 2.

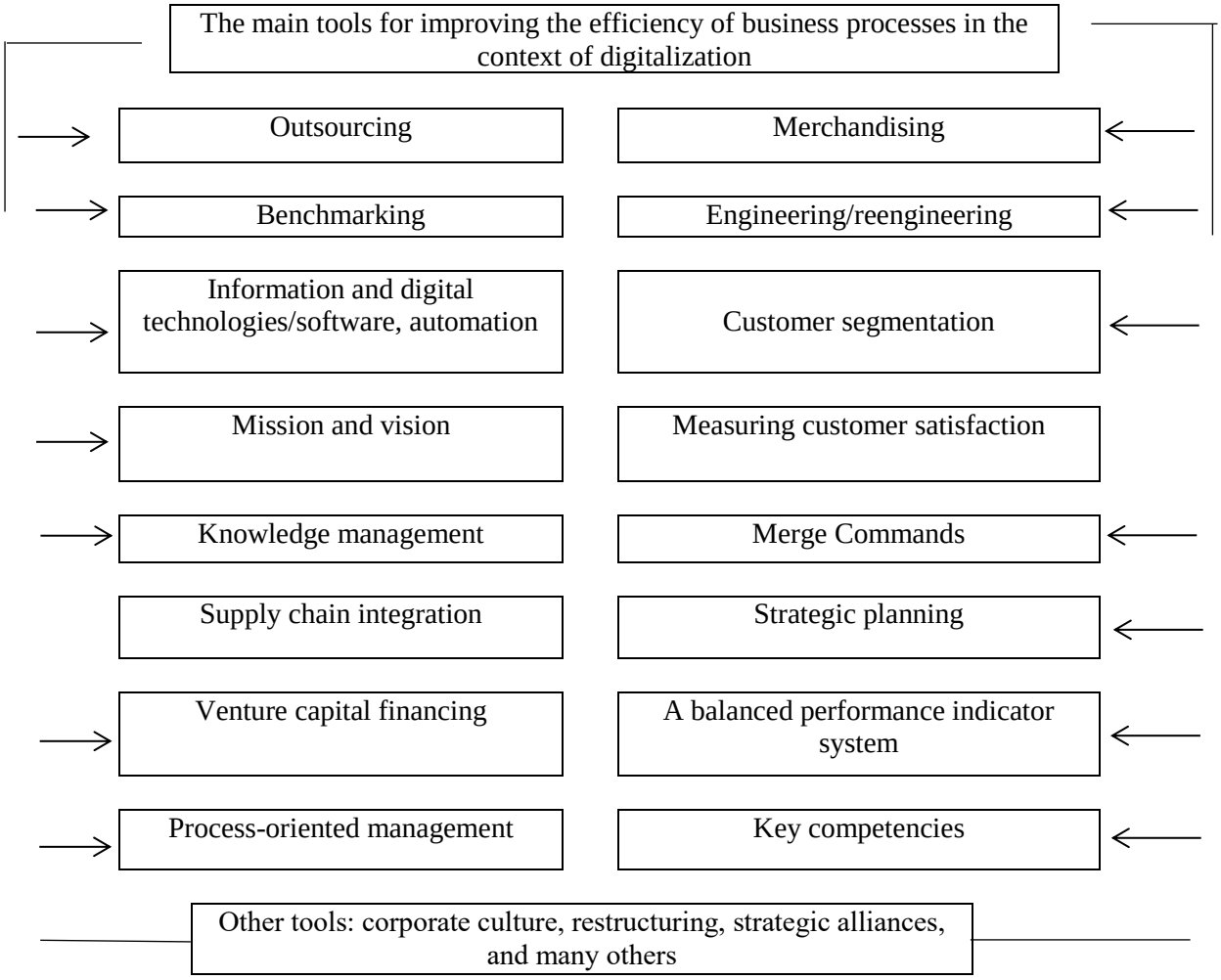

Figure 2 – The main tools for improving the efficiency of the company's business processes in the context of current digitalization

Note: Compiled by the authors

The BCG matrix serves as a strategic analysis tool commonly utilized to assess a company's product portfolio strategy. Through the application of BCG, a company can gauge the efficacy of its assortment policy and propose effective business solutions for optimization, such as venturing into online trading, which extensively leverages modern tools like artificial intelligence and virtual reality technologies.

In contemporary automation systems, many incorporate built-in business process diagram designers, facilitating the depiction of workflow transitioning from one workstation to another. For instance, ERP (Enterprise Resource Planning) systems exemplify this, where effective utilization entails describing the company's existing business processes and closely integrating them with one another. Key advantages of ERP systems include comprehensive solutions, automation, and the seamless interaction of core business processes such as management, planning, and other operations.

In 2022, Kazakhstan's position in the Global Investment Index shifted from 79th to 83rd place. The decline in innovation activity was recorded according to the institutional conditions

created in the country, the level of development of the domestic market, and the results of creative activity.

The problems of Kazakhstan related to the national ecosystem of innovation development lie to the greatest extent in the field of creative and scientific activities, as well as in the field of market development. However, nothing is surprising here: there are only 690 specialists per 1 million inhabitants in the country who are actively engaged in research and development work (2.7 thousand in Russia and 1.8 thousand in Turkey). R&D costs in Kazakhstan amount to only 0.12% of GDP, while in Russia and Turkey, they exceed 1.1%.

Certainly, here's an example of an innovation in the manufacturing industry:

- implementation of innovative equipment and modern technologies for the production of marble filler at the dry building mixes and paint products plant in Aktobe. This investment aims to enhance production efficiency, improve product quality, and potentially reduce costs through automation and advanced manufacturing techniques;
- modernization of the glass processing production complex on an industrial scale, carried out at the facilities of Glass-Service LLP;
- innovative production of cross-linked polyethylene cables with improved characteristics, implemented in Kazelectromash LLP.

Investment activity in Kazakhstan in 2023 maintained a positive trend, reflecting investors' confidence in the stability and prospects of the Kazakh economy. The Government of the country continues to implement measures aimed at attracting domestic and foreign investments, improving the investment climate, and developing infrastructure.

In January-November 2023, the total volume of investments in fixed assets amounted to KZT 15,292.5 billion, which is 14.6% higher than in the previous year. The growth of investments in the manufacturing industry, agriculture, and the construction sector is particularly noticeable, which indicates the diversification of the economy and a decrease in dependence on the raw materials sector.

To analyze the investment attractiveness of various sectors of the economy and regions of Kazakhstan, it is recommended to use specialized analytical tools and databases, such as KazDATA, which provide updated and detailed data that facilitate informed investment decisions.

Continuing the topic of innovations in the field of industry, it is impossible not to mention the widespread digitalization processes that have significantly covered the mining and metallurgical industries of Kazakhstan.

The emphasis in these areas is on a digital mining enterprise, which allows to dramatically increase the productivity of machinery, increase the efficiency of equipment, and ensure a high level of safety. All this is done by reducing the downtime of robotic equipment, optimizing technological processes, and opening up opportunities for mining mineral resources in high-risk conditions.

Another example of the use of digital technologies is the use of unmanned aerial vehicles to collect geospatial information and inspect quarries. The method is characterized by safety, as well as the speed of obtaining a digital model of the studied area with a high level of resolution.

In addition, based on modern digital technologies, waste-free or low-waste production systems are being introduced, waste processing, transportation, and disposal lines are operating; digital twins are being created - models of existing deposits and enterprises; monitoring systems are being introduced. All of them are aimed at improving many economic indicators, as well as ensuring security.

210 new investment projects worth 967.7 billion tenge have been introduced in all sectors of the economy with the creation of 19.5 thousand jobs. A total of 291 projects worth 1.6 trillion tenge are expected to be commissioned by the end of the year.

The regression analysis aimed to evaluate the influence of Financial Management Strategy on Project and Organizational Performance. The coefficient of determination indicates that 40% of the variability can be explained by the employed by the respondents. However, this suggests that FMS accounts for a relatively low proportion of the variability in POP.

The correlation coefficient reveals a positive correlation between FMS and POP, indicating that as FMS increases, POP tends to increase as well. This suggests a strong relationship between FMS and POP.

Despite the positive correlation, the effect of FMS on POP is not statistically significant. Therefore, there is insufficient evidence to conclude that FMS significantly impacts POP.

Firstly, the study sought to know the respondents' level of usage of the identified FMS and the level of POP. Data collected regarding this inquiry is presented in Tables 1 and 2. Table 1 shows that only sufficient cash flow (MS=4.09) has a high level of usage, while Leverage (MS=3.45) and Liquidity (MS=3.66) have an average level of usage among the respondents. Profitability (MS=2.94), Order value (MS=2.83), and Market share (MS=2.32) are scored low among the respondents.

Table 1 – Average scores of strategies for evaluating the effectiveness of the project and the organization

Project and Organization Performance	Mean score	Population mean	Variance	Standard deviation
Profitability	2.94	3.394	0.270	0.520
Sufficient Cashflow	4.09			
Liquidity	3.66			
Leverage	3.45			
Order value	2.83			
Market Share	2.32			
Note: Own calculations				

The analysis of the results showed that the introduction of cash flow forecasting strategies is positively correlated with improved liquidity and availability of funds (Table 1).

The results suggest that most of the respondents make use of sufficient cash flow, leverage, and liquidity as evaluation strategies for POP. Among the FMS presented to the respondents, only cash flow forecast has a low level of usage among the respondents (Table 2). Table 2 also shows that the majority of the respondents employ budgeting (MS=3.89), creditworthiness (MS=3.32), risk management (MS=3.44), and review and evaluation (MS=3.52) as strategies for Financial management. The findings suggest that budgeting creditworthiness, risk management, and review and evaluation are common strategies that are being used as FMS. The comparison of averages and confirmation of the relationship between FMS and POP were conducted using Z-tests on POP. A total of 11 relationships between FMS and POP were examined, with the results yielding Z-test values for these relationships. Among these, only four relationships were found to be statistically significant. The findings indicate that the cash flow forecasting strategy plays a crucial role in determining the liquidity and adequacy of funds for construction projects and organizations. Similarly, creditworthiness, as well as analysis and evaluation strategies, impact the sufficiency of funds for construction projects and organizations.

Table 2 – Average points of the financial management strategy

Financial Management Strategy	Mean score	Population mean	Variance	Standard deviation

Budgeting	3.89	3.37	0.168	0.409
Review and evaluation	3.52			
Risk management	3.44			
Creditworthiness	3.32			
Cashflow forecast/Projection	2.72			
Note: Own calculations				

Both regression analysis and the Z-test have revealed that only certain relationships are reliable. These include the connections between the cash flow forecasting strategy and liquidity, the cash flow forecasting strategy and sufficient cash flow, analysis and valuation, and liquidity, the analysis and valuation strategy and sufficient cash flow, as well as the creditworthiness strategy and sufficient cash flow.

Moreover, it has been established that financial management strategies exert a positive impact on the effectiveness of projects and organizations. Notably, budgeting, creditworthiness, risk management, and analysis and evaluation were identified as effective financial management strategies among the organizations in the sample.

Conclusion

Based on these findings, the study concludes that to thrive in today's competitive landscape, a construction organization must implement budgeting, creditworthiness, analysis and evaluation, and risk management strategies in alignment with its development plan, goal attainment, and resource allocation. For instance, if a construction organization adopts these strategies to manage its finances, it is likely to witness improvements in indicators related to cash flow adequacy, liquidity, and leverage, ultimately leading to enhanced efficiency in construction projects.

The study recommends further empirical research to ascertain which Financial Management Strategies (FMS) in the construction industry best cater to the needs of construction companies in successfully executing construction projects and enhancing organizational performance. Additionally, there is a need for deeper exploration of the relationship between FMS and Project and Organizational Performance (POP). This empirical verification can provide more concrete insights into the effectiveness of different FMS in the construction sector.

To improve the effectiveness of financial management, construction companies should focus on developing clear cash flow management strategies and increasing transparency of reporting.

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ЦИФРЛАНДЫРУ ЖАҒДАЙЫНДАҒЫ БИЗНЕС-ЖОБАЛАРДЫҢ ТИІМДІЛІГІНДЕГІ ҚАРЖЫЛЫҚ МЕНЕДЖМЕНТТІҢ РӨЛІ

Аңдатпа

Қаржылық менеджмент бизнестің өсуін ынталандыруда ажырамас рөл атқарады. Қаржыны тиімді басқару компанияларға кеңейту жоспарлары, сатып алулар және жаңа жобаларға немесе технологияларға инвестициялар туралы стратегиялық шешімдер қабылдауға көмектеседі. Бұл бизнеске ресурстарды ақылмен бөлуге және олардың өсу траекториясын ынталандыратын мүмкіндіктерді пайдалануға мүмкіндік береді.Соңғы 5 жылда нарықта тұрақты бәсекелестіктің пайда болуы жағдайында компаниялар өз дамуы үшін нарықта өмір сүру тиімділігін арттырудың жаңа жолдарын, бағыттарын іздейді. Қазіргі даму жағдайындағы компаниялардың Бизнес-процестеріне әртүрлі факторлар, соның ішінде цифрландыру әсер етеді. Отандық экономикаға тән нормалар мен ережелерді реттейтін талаптардың үнемі өзгеруі жағдайында бірінші кезекте Тұрақты менеджмент құру қажеттілігі, ең алдымен құрылыс жұмыстарының барлық циклін тиімді жоспарлау, орындауды ұйымдастыру және бақылау мәселелеріне ерекше назар аудару қажет. Бұл жағдайда компания басшылығы басқарудың технологиялық тәсілін енгізу туралы көбірек ойлана бастады. Бизнес-процестерге нақты көзқарас, оларды формальды сипаттау, талдау және оңтайландыру болмаса, бұл мәселені шешу мүмкін емес. ҚР экономикасының даму қарқынын жеделдету және цифрлық технологияларды пайдалану есебінен халықтың өмір сүру сапасын жақсарту орта мерзімді перспективада "Цифрлық Қазақстан" мемлекеттік бағдарламасына енгізілген ҚР мемлекеттік саясатының басты міндеттері болып табылады. Елімізде экономиканың барлық салалары белсенді цифрландырылуда, бұл еңбек өнімділігінің артуына және капиталдандырудың өсуіне әкеледі.

Талдау көрсеткендей, цифрландыру жағдайында компанияның бизнес-процестерін модельдеуді жетілдіру саласындағы теориялық және практикалық әзірлемелер жеткіліксіз. Осыған байланысты құрылыс саласының ұйымдарында пайдалану үшін әмбебаптығымен, жүйелілігімен ерекшеленетін бизнес-процестерді модельдеу негізінде компанияның тиімді технологиясы мен стратегиясын әзірлеу және қамтамасыз ету проблемасы туындайды.

Негізгі сөздер: бизнес, компаниялар, жобалар, қаржылық менеджмент, инновация, бизнес-процесс, стратегия.

РОЛЬ ФИНАНСОВОГО МЕНЕДЖМЕНТА В ЭФФЕКТИВНОСТИ БИЗНЕС-ПРОЕКТОВ В УСЛОВИЯХ ЦИФРОВИЗАЦИИ

Аннотация

Финансовый менеджмент играет неотъемлемую роль в стимулировании роста бизнеса. Эффективное управление финансами может помочь компаниям принимать стратегические решения в отношении планов расширения, приобретений и инвестиций в новые проекты или технологии. Это позволяет предприятиям разумно распределять ресурсы и извлекать выгоду из возможностей, которые могут стимулировать их траекторию роста. За последние пять лет, когда ярко определяется стабильная конкуренции на рынке, компании ищут новые пути и направления для повышения эффективности своей деятельности на рынке. Бизнес-процессы компаний в трендах текущего развития уязвимы воздействию огромного количества факторов, включая цифровизацию. Когда регулярно изменяются требования и нормы, характерных для отечественной экономики, особое внимание уделяется необходимости регулярного управления, прежде всего эффективного планирования полного цикла застройки, организации и контроля их выполнения. В связи с этим руководство компаний все чаще рассматривает внедрение процессного подхода к управлению. Без четкого понимания бизнес-процессов, их описания, анализа и оптимизации решение этой задачи становится невозможным.

В среднесрочной перспективе ускорение развития экономики и улучшение качества жизни населения за счет цифровых технологий являются главными задачами государственной политики. Все отрасли экономики активно цифровизируются, что приведет к повышению производительности труда и увеличению

капитализации. Исследование показало, что существующих исследований и практических разработок в области улучшения моделирования данных процессов представителей бизнеса в реалиях цифровизации недостаточно. В результате возникает необходимость в проработке и обеспечении эффективной технологии, основанных на моделировании всего цикла, которые будут обладать многогранностью и комплексностью для применения в строительной отрасли.

Ключевые слова: бизнес, компании, проекты, финансовый менеджмент, инновации, бизнес-процесс, стратегия.

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