Tools for Digitalization of the Company's Financial Activities

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Abstract: Digitalization of the company's financial activities involves the use of digital tools to account for financial transactions, analyze financial indicators and optimize financial processes. In the context of large-scale digitalization of the economy, there are more and more tools that allow you to automate routine tasks of financial services, reduce the time and labor costs of employees, minimize the likelihood of errors and increase the accuracy of information. A variety of innovative solutions actualizes the problem of choosing the optimal set of digitalization tools by an enterprise. The purpose of the work was to study the processes of digitalization of the treasury function of large IT companies and develop proposals to improve their efficiency. Point-based and integrated solutions for digitalization of cash flow management are considered.

1 INTRODUCTION

The main purpose of digitalization of an enterprise is qualitative changes in business processes or ways of carrying out economic activities as a result of the introduction of digital technologies, leading to significant socio-economic effects, among which one can single out an increase in the efficiency of the enterprise, automation of business processes, increased productivity, improved product quality, data analytics, customer service, increased competitiveness, improved communications (Boychenko, K., 2022). Among the main directions of digitalization of the enterprise should be highlighted: digitalization of enterprise management, digitalization of production processes, digitalization of marketing and sales, digitalization of customer service, digitalization of financial activities (Kukharenko, E., 2023).

The financial business processes of the company are aimed at realizing its financial resource needs to ensure coverage of operating costs for the implementation of production and economic activities, fulfillment of financial obligations and further development. Digitalization of financial activities involves the use of digital tools to account for financial transactions, analyze financial indicators and optimize financial processes. In the context of large-scale digitalization of the economy, there are more and more tools that allow you to automate routine tasks, reduce time and labor costs, minimize the likelihood of errors and increase the accuracy of information. Such tools include machine learning, robotics and automation, artificial intelligence, the Internet of Things, big data technologies and other tools that are successfully used in various industries and fields of activity. A variety of innovative solutions actualizes the problem of choosing the optimal set of digitalization tools by an enterprise, taking into account the specifics of the company's financial activities.

2 CASH FLOW MANAGEMENT IN THE FINANCIAL PROCESS SYSTEM

The company's financial work is carried out in three key areas. In the process of financial planning, financial plans are formed aimed at providing the company with the necessary financial resources, improving its financial condition and increasing the efficiency of its activities. Operational management is related to the preparation and implementation of financial decisions, their monitoring, as well as coordination of the financial work of structural units. Evaluation of the effectiveness of the company's

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activities, its financial results, identification of deviations and their causes, as well as recommendations for their prevention in future periods is carried out during control and analysis. The transformation of business technologies, the introduction of digital platforms leads to the expansion of financial activities and increased requirements for the effectiveness of financial work (Salutina, T., 2021).

Cash flow management is one of the most priority areas of financial work. Maintaining stable solvency is a critical factor for any business, so there is a need for centralized cost control and liquidity management.

In this regard, it is a common practice to introduce a treasury department into the organizational structure of a company - a special department or department designed to manage cash flows. The tasks of the Treasury are the operational management of cash flows, the organization of effective interaction with financial institutions, minimizing costs and financial risks, maximizing the profitability of financial investments. The Treasury, as a rule, reports directly to the finance director and provides management with the necessary information to make effective management decisions.

The introduction of the Treasury department into the structure of the company's financial system helps to eliminate such problems as:

inconsistency of the company's financial flow management procedures, lack of a unified policy;

difficulties with the formation of the payment calendar;

information delay, insufficient speed of its receipt;

the likelihood of financial risks.

The work of the Treasury in different companies is structured in different ways, but the priority task of this structural unit is the operational management of the company's financial flows. To accomplish this task, the Treasury performs a number of typical functions: interaction with banks, making payments and monitoring them; confirming the execution of transactions and settlements on them; investing, obtaining loans, loans; analyzing and forecasting liquidity, forecasting financial risks, etc.

The process of enterprise management implies an active exchange of information between all its departments and the external and internal environment. Correctness, completeness, reliability, as well as timely receipt of the necessary data are the key to the company's success in modern business conditions. Accordingly, information support becomes one of the priorities of the financial management system of the enterprise (Kukharenko, E., 2022).

The work of financial services of any company is impossible without telecommunications and information infrastructure (Kukharenko, E., 2021). The pace of digital transformation of business processes in different industries varies (Volodina, E., 2012; Kukharenko, E., 2019), but the general vector is beyond doubt. Treasuries work with huge amounts of information, and the effectiveness of their technical and analytical activities in modern conditions is directly related to the digital tools used.

3 TOOLS FOR DIGITALIZATION OF FINANCIAL PROCESSES

3.1 Point solutions

An analysis of the capabilities of existing digital technologies and solutions for automating treasury functions allowed us to identify the following tools. Artificial intelligence (AI), as one of the most promising and widespread technologies in many areas of life, is successfully being introduced into the activities of companies for a number of reasons:

- the use of AI provides information and economic security due to the possibility of recognizing suspicious transactions and fraudulent attacks;
- the use of AI increases the speed of data processing, while reducing the risk of errors caused by the influence of the human factor;
- AI allows you to automate routine processes such as document generation, monitoring of various indicators, etc.;
- structuring a large amount of data describing each business process in a company, AI is an effective tool to facilitate more informed management decisions.

Artificial intelligence is widely used to solve economic problems of various levels (Salutina, T., 2023). In financial activities, artificial intelligence technologies allow solving problems related to forecasting and analyzing risks, making payments, managing liquidity, and forming management and accounting statements.

The simplest tool, an integral element of artificial intelligence technologies, is robotic process automation (RPA). RPA is mainly used as a tool for optimizing routine tasks that can be built as a simple algorithm. The solution of these tasks is performed by a robot, which allows to increase labor productivity, since the robot is able to perform more operations in the same time; reduce cost by reducing the cost of working time devoted by an employee to solving the problem; reduce the number of errors (Kukharenko, E., 2022). With the help of RPA, financial tasks such

as reconciliation of accounting data, account processing, and data entry into ERP systems are usually automated.

Robotization helps automate the execution of many tasks and optimize business processes, but in a rather primitive way at a basic level. RPA processes are built on the basis of strictly defined rules, and therefore the possibilities of automation through robots are limited. A more complex range of tasks can be solved by combining RPA processes with machine learning (ML). This is, in fact, the next step towards the creation of artificial intelligence. Artificial intelligence expands the capabilities of RPA and ML in solving financial problems, as it allows you not only to automate many processes and tasks, but also to make this process more meaningful. Thus, robotics, machine learning and artificial intelligence are closely related tools, despite the fact that they are considered as separate fields.

Another tool allows you to structure data into a form suitable for further analysis – Business Intelligence (BI) class systems, which are a set of computer tools and information processing methods. The advantages of BI systems include such features as: processing of big data and its interpretation in the context of certain factors that are key for a particular type of analysis; making a decision based on the results of modeling various scenarios of the development of events; combining internal data obtained from sources within the company with external data that the company can obtain from the market in which it operates. The main purpose of the BI-system is to bring data together, visualize them, which makes it possible to further interpret and analyze them.

Unlike Business Intelligence, Big Data's more sophisticated digitalization tool is capable of processing large amounts of unstructured information (Salutina, T., 2021). In the field of finance, Big Data technologies are increasingly being used to analyze, plan and predict various financial indicators, identify and assess external risks.

Another equally promising and in-demand tool is the distributed registry technology - blockchain. This technology allows you to optimize many different business processes, such as, for example, confirming the authenticity of transactions and goods, controlling the supply of goods throughout the entire journey, if we are talking about international transportation. Among the undeniable advantages is the decentralized organization of data storage, which makes it possible to save them in the event of a failure on one of the machines. Positive factors such as the speed of transactions, independence from intermediaries, and complete confidentiality can also be noted (Gorodnichev, M., 2019).

As part of the financial activities of companies, blockchain can be useful in solving tasks such as the formation of business processes, technological processes, asset management of a company, information protection, and the implementation of smart contracts. Blockchain helps simplify payment processes, as well as provides a cheap way to send payments, helps with supply management, but is not a universal solution.

3.2 Comprehensive solutions

The digital solutions discussed above make it possible to automate certain functions of the Treasury. In addition, companies use integrated solutions to digitalize the cash flow management process.

Multibank payment platforms are an example of a comprehensive solution to the digitalization of treasury functions. They are platform solutions that provide simplified access to all corporate accounts and transactions with them, which reduces the labor and time spent on collecting information in the online systems of various banks. The prerequisites for the emergence of multibank platforms were factors such as the need to control accounts in different banks; the difficulty of adapting to various online banking systems, since each bank uses its own platform and there is no uniformity in this matter; the need to save time when making bank transfers, etc. Multibank platforms allow you to quickly receive aggregated information about the company's account balances and receive statements; compile various financial reports; perform end-to-end control of cash flow during the business day; send payments to monitor their execution.

Integrated solutions include the ERP system (ERP- Enterprise Resource Planning), a platform built on a modular principle and providing management of all types of company activities. The modules are independent of each other, which ensures stable operation of the system. The main principle of the ERP system is the centralized collection of information available to any employee. ERP increases the efficiency of the company's activities by ensuring transparency of business processes and improving communication between the company's divisions and external structures. The ERP system is configured for a specific functionality in accordance with the specifics of the company's activities.

Another comprehensive solution for digitalization of the company's financial system is a specialized treasury management system (TMS - Treasury

Management System). TMS is a software application that automates the process of managing a company's financial operations (cash flow, assets, investments). TMS can be installed either on the company's server, or provided by the provider as a cloud solution. TMS is configured to meet the requirements of a specific company and allows you to implement functionality for risk management, internal banking, financial flow management, cash flow forecasting, trading operations, the formation of various types of reporting, payment automation, and ensuring the interconnection of banking and ERP systems.

4 RESULTS AND RECOMMENDATIONS

The conducted research made it possible to generalize the applicability of various tools for solving financial problems. An analysis of existing technologies and solutions in terms of coverage of financial functions shows that the enterprise today has a wide range of digital tools at its disposal to improve the efficiency of the treasury and improve the financial system as a whole. Both individual tools and specialized software solutions allow automating numerous operations performed by employees of treasury services (Table 1).

Table 1: Tools for digitalizing the cash flow management process.

Digital solutions	Tools
Digital tools for automating individual Treasury functions	Robotic Process Automation
	Machine Learning
	Artificial Intelligence
	Business Intelligence
	Big Data
	Blockchain
Comprehensive digital solutions for enterprise cash flow management	Multibank payment platforms
	Enterprise Resource Planning
	Treasury Management System

Technologies are closely related to each other and can close a number of similar operations from different sides, which means to maximize the efficiency of processes with an integrated approach to use. However, the choice of the best solutions for a particular company depends on the scale and characteristics of its financial activities and the total cost of implementing digital tools. The decision-making process on choosing a digitalization tool is shown in Figure 1.

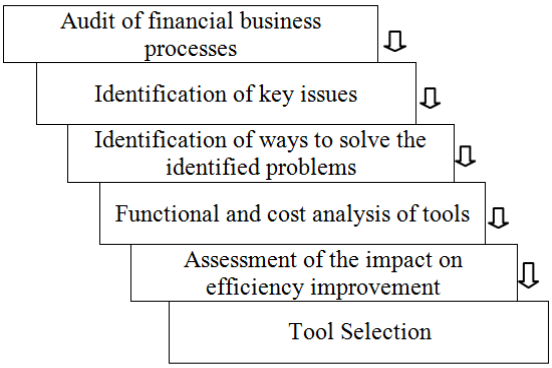

Figure 1: The decision-making process on choosing a digitalization tool.

The initial stages for making a decision are an audit of the key business processes of the Treasury Department, identifying the main problems and determining ways to solve them. Digital projects require significant investments and involve high risks. Not all companies have access to the products available on the market. An important factor for decision-making is the tendency to shorten the life cycle of technologies due to rapid obsolescence and displacement by new, more advanced technical solutions. It is carried out based on the analysis of the characteristics of individual business processes.

It is quite difficult to calculate the economic effect of the introduction of digital tools into financial business processes (Volodina, E., 2021, Kuzovkova, T., 2020). Digital transformation of financial activities is usually a long-term project that requires not only initial, but also regular subsequent investments, since any software requires constant refinement, optimization, updating and maintenance. Each company, having decided to optimize its business processes through information technology, thereby works for the future and invests in improving not only economic efficiency, but above all in improving the quality of its internal activities and building it in such a way that routine tasks do not distract staff from solving more significant global tasks.

5 CONCLUSIONS

Treasury services play a key role in the management of the company's financial assets. Their area of responsibility includes such important processes as

liquidity management, maintaining and controlling the stable solvency of the company, operational cash management, as well as multiplying the company's passive income. The role of the Treasury in companies has been transformed over the past decades. Now it is not only a department that performs operational functions. The modern Treasury is a strategic partner of the business, providing it with daily support in many critical issues. As part of their functionality, treasuries perform a huge number of routine tasks on a daily basis, which are extremely important for the company's activities. That is why digitalization of the Treasury's business processes is extremely necessary.

In world practice, there are a huge number of different digital tools that allow you to optimize any process. Each tool has its own set of tasks that can be optimized as much as possible through its implementation. Digital tools can represent both point-to-point solutions and complex, systemic, transformative business processes of a company or a certain part of it at the global level. The feasibility of implementing a particular tool depends on the expected scale of business process transformation, which, in turn, depends on the size of the company. The introduction of an optimal set of modern digital technologies makes it possible to bring automation to a new intellectual level.

REFERENCES

Boychenko, K., Boychenko, I., and Platunina, G., 2022. Digitalization of Society, Economics and Management. *Lecture Notes in Information Systems and Organisation 53 (Springer, Cham, 2022).*

Kukharenko, E., Yankevskiy, A. 2023. Managing the digitalization of business processes in an organization. *E3S Web of Conferences, 2023, 419, 02027*

Salutina, T., Platunina, G., and Vasileva, I., 2021. Transformation of Business Technologies into Digital Platforms and Evaluation of the Effectiveness of their Application. *International Conference on Quality Management, Transport and Information Security, Information Technologies (IT&QM&IS)* , 2021, pp. 888-892,

Kukharenko, E., 2121. Analysis of Approaches to Audio&visual Interaction Information Systems Creating in the Context of Digital Transformation. *International Conference on Quality Management, Transport and Information Security, Information Technologies (IT&QM&IS) (2021), pp. 880-882.*

Kukharenko, E., Yankevskiy, A., 2022. Management of distributed medical information systems. *Lecture Notes in Information Systems and Organization. "Digitalization of Society, Economics and Management - A Digital Strategy Based on Post-pandemic Developments" 2022, (2022), pp. 187-205.*

Volodina, E., Plossky, A., 2012. Influence of economic factors on clustering of regions for the digital dividend implementation in a number of specific conditions. *IEEE International Symposium on Electromagnetic Compatibility, 2012, 6396914.*

Kukharenko, E., Korkunov, I., Gorodnichev, M., Salutina, T., 2019. On the Introduction of Digital Economics in the Transport Industry. *Systems of Signals Generating and Processing in the Field of on Board Communications, SOSG 2019, (2019), RU, 8706797.*

Salutina, T., Kuzovkova, T., Platunina, G., 2023. Principles of Intelligent Analysis of Multidimensional Integrated Data of Digital Development. *AIP Conference., 2023, 2948(1), 020047*

Kukharenko, E., Mankov, V., 2022. Digitalization of the Company's Business Processes Based on Technological Innovations Proceedings. *International Conference "Quality Management, Transport and Information Security, Information Technologies", IT and QM and IS 2022, 2022, pp. 100–103*

Salutina, T., Klesareva, E., Platunina, G., 2021. Big Data as a Management Decision-Making Tool in Digital Business Environments. *International Conference on Quality Management, Transport and Information Security, Information Technologies (IT&QM&IS), 2021, pp. 893-895.*

Gorodnichev, M., Kukharenko, E., Salutina, T., Moseva, M., Kukharenko, A., 2019. Features of the development of information systems for working with blockchain technology. *Journal of Physics: Conference Series. International Scientific Conference "Conference on Applied Physics, Information Technologies and Engineering - APITECH-2019". Krasnoyarsk Science and Technology City Hall of the Russian Union of Scientific and Engineering Associations; Polytechnical Institute of Siberian Federal University. (2019), RU, 33039.*

Volodina, E., Kukharenko, E., Sukhodolskaya, T., 2021. Innovative Methods of Spectrum Management for the Development of Promising Mobile Networks Proceedings. *IEEE International Conference "Quality Management, Transport and Information Security, Information Technologies", T and QM and IS 2021, 2021, pp. 911–914*

Kuzovkova, T., Saliutina, T., Kukharenko E., Sharavova, O., 2020. Mechanism of interconnected management of development of networks and platforms of the internet of things on the basis of evaluation of synergetic efficiency. *Wave Electronics and its Application in Information and Telecommunication Systems WECONF (2020), 9131158.*