

GCPMED 2020
Global Challenges and Prospects of the Modern Economic
Development

FINANCIAL TECHNOLOGIES IN THE TRANSFORMATION OF
CORPORATE INTERACTIONS

Natalia Morozko (a)*, Nina Morozko (b), Valentina Didenko (c)

*Corresponding author

(a) Financial University under the Government of the Russian Federation, Leningradsky Prospect, 49, Moscow, Russia, natmorozko@mail.ru

(b) Financial University under the Government of the Russian Federation, Leningradsky Prospect, 49, Moscow, Russia, ninamorozko@listl.ru

(c) Financial University under the Government of the Russian Federation, Leningradsky Prospect, 49, Moscow, Russia, didenkova@gmail.com

Abstract

The use of modern financial technologies in processes makes it possible to optimize costs, ensure transparency of operations, improve the quality of interaction with partners. The financial world is at the stage of large-scale introduction of new technologies into every aspect and stage of economic activity. Financial institutions are developing online service channels by introducing operational solutions that develop new methods of reaching out to prospective customers and keeping in touch with existing customers. The definition of the research goal was carried out in accordance with the SMART model. Analysis of the problems in the activities of companies revealed the need to use appropriate financial technologies related to pricing policy, methods of mobilizing financial resources, and rational distribution of financial resources. On the basis of a SWOT analysis of the use of financial technologies in a corporation, positive and negative factors in the application are revealed. A cognitive structural approach is proposed for assessing the results of using financial technologies in the management of company finances, which made it possible to determine the relationship between the influence of positive and negative factors on economic value added. It focuses on the possibility of increasing the company's market value, which is positively manifested in the system of the company's strategic development.

2357-1330 © 2021 Published by European Publisher.

Keywords: Corporations, economic value added, financial technology



1. Introduction

The peculiarities of financial interactions and the dominance of management decisions based on information networks characterize the main features of the identification of modern economic relations. Digital platforms show the possibilities of using digitalization to reduce transaction costs and monetize information and communication relations. To increase the efficiency of the functioning of companies in modern conditions, it is necessary to apply the latest financial technologies, on the basis of which the effectiveness of financial decisions is increased, and balanced functioning is ensured. Financial technologies are widely used in lending operations; during various insurance operations, in the asset management system, during settlement operations (Gabor & Broks, 2017). The need to use new financial technologies is due to the influence of a number of factors: a change in the speed of operations, innovative changes in the technology of the behavior of operations, transforming requests from counterparties, and increasing competition (An & Dorofeev, 2019).. On the basis of financial technologies, costs are optimized, transparency of operations is ensured, and the system of interactions with counterparties is improved (Sosa & Rocha, 2019).

Fintech is developing in various directions; products are offered both for financial structures and for business, as well as in other areas (Chanias et al., 2019). The process of widespread use of blockchain technologies, scoring models using big data, and remote customer identification technologies is developing. Providing users with relevant and useful services is a significant priority (An et al., 2019). New technologies, organized on the digitalization of most relationships, make it possible to develop the corporate sector and the consumer services sector.

2. Problem Statement

In modern corporations, the core problem is the choice of financial technologies aimed at solving significant problems and allowing to increase the effectiveness of financial management. The use of financial technologies conventionally includes the following scheme:

- identification of financial problems that need to be prevented;
- determination of the effectiveness of the application of possible solutions in the approved financial policy;
- selection of a solution according to the criterion "price / efficiency".

Identification of financial problems must be carried out on the basis of the current and predictive analysis of situations in the context of dynamic transformations. Using innovations in financial management can improve the efficiency of applying acceptable solutions. The choice of certain financial technologies is associated with the adjustment of financial policy, taking into account the established criteria approach. Digitalization allows you to connect various business entities to the resources of financial technologies.

3. Research Questions

The study of the practical activities of various corporations allows us to highlight unfavorable positions in financial processes: often

- imperfections in the movement of streams of various types of information;

- financial functions are often carried out by non-financial services;
- lack of a database for storing and accumulating information;
- insufficient motivation of managers to track the movement of financial documents;
- violation of the terms of document flow between different services;
- duplication of functions of various services;
- a formal approach to summarizing the results of the analysis of activities.

Over the past period, many sources have noted the rapid penetration of financial technologies into various fields of activity. At the same time, there is no systematic approach to analyzing the conditions for the use of financial technologies in corporate finance. It is possible to single out the following main issues of financial technologies:

- determining the needs for the use of financial technologies;
- determination of the factors that promote and hinder the use of financial technologies;
- determination of the effectiveness of the use of financial technologies (Morozko et al., 2018a).

4. Purpose of the Study

To assess the performance of financial management, objectives must be defined. For this, it is necessary to highlight the strengths and weaknesses of the company's activities, the company's development potential and adverse effects on the company. When defining a goal, it is necessary to be based on a SMART model: the possibility of achieving, specificity, measurability, importance and certainty in terms of time. The use of the latest information technology in the financial management process is focused on the creation of appropriate methods of cognitive company management. On the basis of cognitive management, it becomes possible to detect problems and provide recommendations in conditions of uncertainty and risk situations. Cognitive management technologies consider the influence of the internal and external environment, taking into account objectively formed trends. It is recommended to use the cognitive management mechanism for both strategic and current planning in almost all areas of activity. Assessment of problems in the activities of companies revealed the need to use appropriate financial technologies:

1. Issues related to the sale of goods - pricing policy, accounts receivable management system.

2. Issues of a deficit of financial resources - methods of mobilizing financial resources, a system for managing accounts payable.

3. Issues related to the rational division of financial resources - the conditions for placing net profit for consumption and for reinvestment. The implementation of financial technologies is carried out on the basis of a diverse group of transactions and operations performed by the company in the financial market.

The formation and development of various companies is based on the use of modern effective financial technologies (Morozko et al., 2018b). On the basis of financial technologies, rational access of companies to financial resources, to interaction with credit, insurance, guarantee organizations is provided. The appropriate choice of certain financial technologies is the main task of the strategy and tactics of the company's functioning. Innovative financial technologies change traditional methods in the system of human interactions and information systems when considering management issues, while the efficiency of the decisions made is growing. There is an opportunity for effective management based on the use of

updated forms of digital business implementation. Financial technology products are diverse, including management and financial accounting, financial analysis and planning, etc.

5. Research Methods

Increasing requirements for financial management creates an increase in demand for new financial technologies for the rational attraction and distribution of financial resources (Morozko et al., 2020). Corporate finance is influenced by many factors, both positive and negative. SWOT analysis allows highlighting the main factors (Table 1).

Table 1. Matrix SWOT analysis of the application of financial technologies in a corporation

Internal factors	S – strengths	W – weaknesses
	Reducing the timing of payments	Increased risks in transactions
	Acceleration of funds turnover	Significant expenses for purchasing software
	Using flexible approaches in decision making	Cybersecurity costs
	Reducing the cost of manufactured goods, work performed	Difficult configuration and limits of device access to certain financial services
External factors	O – opportunities	T – threats
	Increase in revenue from the sale of goods, works	Economic conditions in the state
	Creative embodiment	Insufficient regulation based on legislative acts
	A dynamic environment in the stock market	Challenges posed by the issuance of unsecured electronic currencies
	Availability of potential in obtaining assistance from banks and insurance organizations	Increased number of cyber attacks

Source: authors.

When analyzing all possible combinations of strengths and weaknesses with threats and opportunities (SWOT-analysis), the problem field of the companies in question is formed: reducing the timing of payments; lowering the cost of manufactured goods, work performed; significant expenses for the purchase of software; risks of cyberattacks during operations. In the corporate segment, information security problems are usually the slowing factor (Morozko et al., 2018c).

The business strategy for considering development issues includes a number of strategic steps that set the logic for transforming the provisions of the system.

$$C_0 \rightarrow C_1 \rightarrow C_2 \dots C_m \rightarrow C_c$$

Where: C_0 — initial state;

C_c — final state;

$C_i \rightarrow C_j + I$ — a strategic step that identifies the problem and, through factor analysis, establishes the required change.

A cognitive structural approach to assessing the results of using financial technologies in the management of companies' finances allows us to determine the relationship between the influence of positive and negative factors on economic value added (EVA):

D - reduction of the terms of payments made;

C - lowering the cost of manufactured goods, work performed;

- E - significant costs for the purchase of software, costs associated with cybersecurity;
- H - increased risks when carrying out operations through cyber-attacks.

The variable EVA expresses the influence of a certain number of factors-arguments, the function is the probability of a certain outcome, for a given number of factors, is calculated based on the logistic regression equation (Logit-model). The influence of the corresponding factor argument is reflected through the regression coefficients (Luo et al., 2018). The sign in front of the regression coefficient determines the increase (positive sign) or decrease (negative sign) in the probability of the event under study. A significant influence of the factor under consideration on the probability is reflected by a large value of the regression coefficient, an insignificant value of the regression coefficient indicates an insignificant influence of the factor on the dependent variable (Dorfleitner et al., 2017).

Changes in the function are possible in the range from 0 to 1. In the equation, the variable Z reflects the susceptibility to a certain set of factors-arguments, the function F (z) is the probability of a certain outcome, given a set of factors.

In accordance with the considered factors for corporate business, the function takes the form:

$$F(z) = \beta_0 + \beta_1 D + \beta_2 C - \beta_3 E - \beta_4 H$$

F(z) - dependent variable: 1 - with a positive value of economic value added, 0 - with a negative value of economic value added.

The logistic regression model can be calculated in almost all programs for professional statistical data analysis, including: Statistica, SAS, SPSS, R and others (Mikhailov, 2018a). The coefficients in the logit model express the multiplicative effect on the dependent variable, which distinguishes this model from a linear regression model. The model parameters display the probability modifications of the function value, determined by transforming the argument by one unit, while other parameters are set by constants. The sign of the coefficient characterizes the vector of dependence.

6. Findings

The constructed logistic regression model makes it possible to predict the dynamics of a company's economic profit when using new financial technologies. Most of the solutions in corporate business are tailor-made. The demand for financial technologies is mostly noted in financial risk management (Morozko et al., 2021). The proposed modern financial technologies are associated with integration into existing payment systems. The active process of creating new standards for electronic payments, reducing costs using automated approaches, reducing the workload of managers, and using electronic assistants is noted. Business solvency in modern conditions is determined not by the haphazard use of some tools, but by a reasonable strategy for using the conditions of digital transformation. The advantage of financial technologies is that when applied, the timing of reporting within the company is reduced and control over management operations is enhanced. Processes are based on core business sustainability standards to deliver efficiency, profit growth and a corresponding increase in economic value added.

In the system of digitalization of open assets, risks appear in sharing platforms, in financing local start-ups. At the same time, there is an increase in financial services, which may have a beneficial effect on the development of innovative technological solutions in various types of economic activities (Mikhaylov,

2019). Modern financial technologies cover a variety of financial services by type and scale: financial marketplace, asset management, electronic payments and transfers, crowdfunding, etc.

The trend towards the organization of fully digital banks continues to develop in the system of using online banking services. Financial technologies act as part of the macroeconomics, ensuring the movement of financial flows in the system of cross-border provision of financial services, while geo financial risks arise associated with fraud in the identification of users, ensuring information security of transactions. Cloud technologies provide more opportunities for the development of financial technologies and significant changes in the infrastructure of the financial sector of the economy. A plurality of reserve currencies is emerging with the use of the capabilities of the countries of macro regions to free themselves from unnecessary derivatives, increasing the stability of world finance (Mikhaylov, 2018b).

7. Conclusion

The use of modern financial technologies makes it possible to reduce the costs of companies, reasonably outline the directions of strategic actions in the market, it is advisable to carry out financial functions in management. This will provide an opportunity to increase the market value of the company, which is positively manifested in the system of the company's strategic development.

Financial technologies in the company's operations in the financial market demonstrate that they are one of the most important conditions for ensuring the growth of the market value of a business. Accordingly, the use of financial technologies in the practice of corporations is one of the main strategic goals aimed at improving the methods and techniques of managing the company's financial activities. With the help of new financial technologies, the competitiveness of the company increases, the quality of management improves. Competitiveness also depends on the timely receipt of the necessary information, the appropriate use in the system of possession of high and information and communication technologies, which allows you to get advantages. Financial technologies significantly contribute to the influence of the multiplier effect of innovation. This creates conditions for the expansion of the influence of modern network technologies on the development of innovation-oriented companies.

References

- An, J, Mikhaylov, A., & Sokolinskaya, N. (2019). Oil incomes spending in sovereign fund of Norway (GPF). *Investment Management and Financial Innovations*, 16(3), 10-17.
- An, J., & Dorofeev, M. (2019). Short-term foreign exchange forecasting: Decision making based on expert Polls. *Investment Management and Financial Innovations*, 16(4), 215-228.
- Chanas, S., Myers, M., & Hess, T. (2019). Digital transformation strategy making in pre-digital organizations: The case of a financial services provider. *The Journal of Strategic Information Systems*, 28(1), 17-33.
- Gabor, D., & Broks, S., (2017). The digital revolution in financial inclusion: International development in the fintech era. *New Political Economy*, 22(4), 423-436.
- Dorfleitner, G., Hornuf, L., Schmitt, M., & Weber, M. (2017). *International position of the German fintech market*. Springer.
- Luo, S., Zhang, Y., & Zhou, G. (2018). Financial structure and financing constraints: Evidence on small- and medium-sized enterprises in China. *Journal Sustainability*, 10(6), 1-20.

- Morozko, N., Morozko, N., & Didenko, V. (2018a). Rationale for the development strategy of small business organizations using the real options method. *Academy of Strategic Management Journal*, 17(2), 1- 19.
- Morozko, N., Morozko, N., & Didenko, V. (2018b). Determinants of the savings market in Russia. *Journal Banks and Bank Systems*, 13(1), 196-208.
- Morozko, N., Morozko, N., & Didenko V. (2018c). Financial management of small organizations based on a cognitive approach. *International Journal of Economics and Business Administration*, 6(2), 83-91.
- Morozko, N., Morozko, N., & Didenko, V. (2020). The use of real options in assessing the development of small energy in Russia. *International Journal of Energy Economics and Policy*, 10(4), 205-211.
- Morozko, N., Morozko, N., & Didenko, V. (2021). Financial conditions for the development of entrepreneurship in a modernized economy. In S. I. Ashmarina, J. Horák, J. Vrbka, & P. Šuleř (Eds.), *Economic Systems in the New Era: Stable Systems in an Unstable World. Lecture Notes in Networks and Systems*, 160 (pp. 669-678). Springer.
- Mikhailov, A. (2018a). Pricing in oil market and using probit model for analysis of stock market effects. *International Journal of Energy Economics and Policy*, 8(2), 43-53.
- Mikhaylov, A. (2018b). Volatility spillover effect between stock and exchange rate in oil exporting countries. *International Journal of Energy Economics and Policy*, 8(3), 321-326.
- Mikhaylov, A. (2019). Oil and gas budget revenues in Russia after crisis in 2015. *International Journal of Energy Economics and Policy*, 9(2), 375-380.
- Sosa, M. J., & Rocha, A. (2019). Skills for disruptive digital business. *Journal of Business Research*, 94, 257-263.