

# The Problems Creation of Organization Values in Conditions of Digital Economy

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**Abstract**— The global economy is steadily entering a "digital" stage of its development. However, most aspects of this stage are still slowly researched. As a result, a computational power of a modern computer doubles every year since the 1970s while the maintenance cost declines at about the same rate. On the other hand, every component of the human activity today is accompanied by a digital recording. Thus, various users of information have collected more data over the past two years than in the last third of the twentieth century. The number of the interactive devices is also growing rapidly. In 2016 four billion smartphones were purchased and activated in the world in addition to the two billion in use. And all these smartphones as well as laptops, tablets, sensors and cameras create data streams of large volume - 2.5 exabytes each day. The sharp change of the data amount and the increase in the digital tools number transform all aspects of social and economic life, affecting more and more areas of entrepreneurship, trade, production and services. This in turn forms the conditions in which organization management systems and consequently the mechanisms of value creation of organizations are experiencing their own digital revolution, which has a significant impact on functioning processes and effectiveness of risk management. It is important to note that according to our estimates, which are given further in the article, now 70% of Russian organizations have only an approximate understanding of the nature and the content of the "digital" risks that may accompany their activity in the future, in turn, only 10% Russian organizations have formed mechanisms for digital risks management within their management systems. Another 20% of Russian organizations have no idea about "digital" economy and the risks connected with its formation. This article is devoted to the analysis of main types of risks connected with the "digital" economy formation and the logic of transformations implementation in possessory risks management systems as well as mechanisms of value creation of the organizations in the context of the "digital" era.

**Keywords**—*problems; development; possessory risk management; system; organization, digital economy*

## I. INTRODUCTION

The formation of the "digital" economy within the framework of the transition to the fifth-sixth technological structures is a new development trend. Under the influence of artificial intellect and digitization such industries as media, transport and retail trade have already been transformed. Obviously, in the long term significant changes will occur in management systems of the organizations in all spheres of the economy under the influence of digitization.

It is important to emphasize that the "digital" economy formation relates to emergence of the new previously unknown types of risks, which provoke both new dangers and new opportunities. The emergence of such risks should stimulate owners of the organizations and managers to restructure existing risk management systems in general and possessory risks.

In these circumstances the key element in the development of risk management theory and practice should be consideration of the idea of digital risk transformation. For instance, search for an answer how far they can be automated: main processes of risk management in general and possessory risks and what will be the effectiveness of implementing automated management decisions.

The present work is an attempt to analyze just a few aspects of the influence of the digitization on processes, roles of the owners and managers, and the logic of the possessory risk management systems functioning.

Besides, the work analyzes such aspects of the risk management and creation of the organization values as opportunities for organization development related to risks, talent, culture and ways of interaction between owners and managers. The algorithms of owners and managers' actions will be analyzed within the development and implementation of the "digital" transformation programs for value creation and

possessory risk management systems, as well as the impact of such transformation on the organization's management systems effectiveness.

## II. CONCEPT DEVELOPMENT

Obviously, despite the considerable interest from the media, government authorities, the scientific community, the problem of the "digital" economy formation and development of effective theoretical and practical solutions has not been yet resolved in Russia.

At the same time according to foreign research about 30% of organizations in Europe and in the world in the last two years have invested more than 25% of their annual budgets, allocated to risk management systems, in development and implementation of the mechanisms of identifying, analyzing, evaluating and managing "digital" risks [1, 2, 3, 4].

In the authors' opinion, these transformations are the consequence of the six main realized trends, either directly affecting the transformation of the management systems of organizations, or indirectly creating the ground for such changes.

The first trend of the "digital" economy is the customers of the organization or consumers of its products and their constantly growing expectations. In modern conditions, consumers and business partners are increasingly inclined to implement processes of the interaction with organizations via social networks and e-commerce mechanisms.

In turn, this requires formation of the new functioning models of both management systems of the organization and possessory risk management systems, as well as the mechanisms of creation of the organization values allowing to monitor main types of threats and risks associated with social networks and e-commerce.

The second trend is the increasing competitive pressure manifested in innovative technologies in sales and customer interaction. For instance, over the past few years some local and foreign organizations have significantly automated both management processes inside the organization and the processes of the interaction with customers, improving the efficiency of their risk management models.

As a result, organizations implementing such management solutions can compete more effectively with organizations with traditional technologies of sales and interaction with customers in price of manufactured products, goods and services [4].

The study conducted by the authors found that the share of transaction costs of organizations applying innovative "digital" technologies both in management systems inside the organization and in customer interaction systems is 33% compared to a similar figure of 55% for organizations with traditional technologies.

Thirdly, in Europe and the US, there is a trend in which the reduction of administrative barriers and the reduction of interest rates on loans have led to the fact that the average rate of return from implementation of the innovation projects has turned out to be lower or equal to the cost of the capital [2, 5, 6, 7].

And although this trend has not yet become sufficiently evident in the local economy, it is important to note that the introduction of "digital" technologies in Russia will stimulate further lowering of the interest rates and, consequently, increase a competition level in all sectors. This, according to the authors, is one of defining criteria of the development of the possessory risk management systems based on "digital" technologies.

The fourth trend is related to the emerging and evolving types of the "digital" risks which arise because of realization of new business models.

For example, appliance of the digital channels of the information transfer and interaction between organizations is the source of the new types of risks associated with possibility of the information loss, corruption, intentional distortion of data for unfair competition or common theft of the "digital" assets.

The formation of new types of the "digital" assets expects much more attention to be paid by owners, top managers and risk managers to the development and implementation of the new risk modeling tools. Furthermore, a higher level of interconnection between enterprises requires development of "digital" protection innovative methods both at the software, and at the level of the organizational management systems and mechanisms of the creation of organization values [3, 8, 9, 10].

The fifth trend relates to the transformation of the government regulation mechanisms in conditions of the "digitization". It is important to note that this trend is particularly relevant not only for Russia, but also for Europe. At the same time, the data obtained by the authors during the survey indicate that 30% of representatives of the local businesses claim that the regulatory costs of risk management have increased by more than 50% over the past five years. In addition, 46% of the interviewed owners and managers forecast that the expenses will continue to increase in the next five years.

Although with the increase in "digital" technologies in the government regulation system of the Russian economy some aspects of the government control can be simplified, it is obvious that in conditions of the "digital" economy formation, the government should pay special attention to increase of the effectiveness supervisory activities in the field of the general economic risks, systemic risks in such sectors as production and services, data protection of customers and partners of the organization and rights protection of consumers of "digital" products and services.

Thus, we may conclude that in the transition to the "digital" economy the formation of the effective mechanisms of governmental regulation of these processes can become a driving force for improving risk management systems of the organizations and mechanisms of creation of the organization values based on the "digital" technologies. Introduction of the "digital" technologies itself in management practice, both at the state level and at the level of an individual organization can become a key element in reducing administrative burden on business.

Finally, the sixth trend concerns formation of the organization's ecosystem responsible for new ways of implementation of important managerial functions. For example, in many European countries digital partnership technologies between organizations in risk underwriting, fraud detection, and through the development of sectoral communication tools, regulatory compliance or supervisory reporting are becoming increasingly available [5, 11, 12, 13, 14].

In general, 70% of respondents in this study, representatives of Russian business, believe that the above examples of the innovative technologies can become the main "digitization" of the possessory risk management systems and mechanisms of creation of the organization values. The most important directions of such development of the possessory risk management systems according to the authors are:

- reduction of the losses from operational risks;
- liquidity management;
- assessment of the organization's stability and susceptibility to risks;
- identification, analysis, evaluation and management of new types of the "digital" risks;
- monitoring and management of traditional types of risks.

Another important aspect of the "digitization" of possessory risks management systems is, as noted above, creation and development of the communication networks and partnerships between organizations to reduce administrative pressure on business.

### III. RESEARCH METHODS

Within the study the authors use a generally accepted interdisciplinary definition of the concept of "digitization" of business or industry, which includes seven main blocks.

1. Data management. General data management, data quality assessment, formation and use of data harmonization processes and operational data assessment models allow to select and to use huge amount of data - both structured (such as transactions) and unstructured (e-mails and text messages, messages in social networks, photographs, etc.) [15].
2. Automation of management processes and workflows. Computers simplify, standardize and effectively execute common tasks (for example, data collection and input) [16].
3. Advanced methods of analysis and automation of decision-making. Innovative statistical methods and algorithms along with artificial intelligence (including machine learning, cognitive agents and robots) help owners and managers extract ideas, make high-quality predictions and choose the most effective tools of influence on business processes [17].
4. Efficient and flexible infrastructure. Upgraded data environment, including data architecture and

underlying systems, becomes flexible due to the use of techniques such as array of data, virtualization and a hybrid cloud. The infrastructure provides an uninterrupted and consistent user interface - both for customers and employees - on PCs, mobile phones and tablets [18].

5. Intellectual visualization and interfaces. Tools and applications provide users with such data as self-service reports, interactive dashboards and even augmented reality [19].
6. External ecosystem. Formation and development of the partnerships provide an organization with competitive digital opportunities, developed both within the organization and in cooperation with partners in the communications networks, through acquisition of start-ups [20].
7. Management of talents and values. In modern conditions people unite traditional business solutions and technological knowledge based on correlation of experience with modern data, analysis and digital knowledge. An effective system of creation and dissemination of organization values creates conditions for rapid, iterative delivery of ideas from owners to managers and employees and back, as well as the organization's ability to adapt to external conditions [20].

Despite the considerable interest in the problem of the "digital" economy formation, both from the government and business, "digitization" in Russia basically comes down to certain aspects that are oriented toward behavior analysis and stimulation of consumer activity of a client (such as Internet marketing), and customer service operations. Obviously, this is not enough for a full-fledged formation of the "digital" economy.

Recently, "digital" technologies are gradually beginning to penetrate other components of the organization's management systems, including risk management systems. It should be emphasized that the focus group of owners and top managers of the organizations noted the importance of implementing "digital" technologies in organizations' risk management systems.

So, 70% of respondents reported that the owners and top managers of their organizations pay some attention to the efforts to introduce "digital" technologies into the risk management system, in turn, 10% answered that the owners and managers of their enterprises put these efforts as the main priority.

However, such interest in problems of "digital" technologies introduction in management systems of the organizations in general and possessory risk management system is not reflected in increase in volume of the investments of owners of Russian organizations in "digital" projects. Only about 10% of owners of large and medium-sized Russian companies allocated more than half of the funds provided for development of risk management systems to the

introduction of "digital" technologies in such systems; another 15% of owners provided for the introduction of "digital" technologies in the risk management systems of their organizations from a quarter to a half of the investment budget.

At the same time, it is obvious that the data given above on low investment activity of Russian organizations in the "digital" technologies development is only intermediate, and with due attention from the government and the scientific community these volumes will grow. It is also important to point out that "digital" transformations in risk management systems and mechanisms for values creation of the organization have already become a reality in the largest Russian companies.

Within the framework of this article, the study of the main financial indicators of several large Russian organizations was made, where a trend towards high volatility of these indicators was traced, which is reflected in the table below.

Table – The main financial indicators of enterprises in the dynamics for 2015-2016.

Indicator / year	"Rostekh" corporation data	PJSC AFK Sistema data	PJSC Rosinter Restaurants Holding (Rosinter) data
<b>Consolidated revenue, bln. rub.</b>			
2016	1266	697.7	7.207
2015	1140	678.8	7.677
Rate of increase, %	+ 11	+ 2.8	- 6.1
<b>Consolidated net profit (loss), bln. rub.</b>			
2016	88	1.702	0.006
2015	99	(5.852)	(0.392)
Rate of increase,%	- 11	-	-
<b>Sales profitability by net profit,%</b>			
2016	6.95	0.24	0.08
2015	8.68	-	-
Deviation	-1.73	-	-

Source: compiled by the authors based on the reporting data of GC "Rostekh", AFK "Sistema" and PJSC "Rosinter Restaurants" Holding (Rosinter) [21, 22, 23].

Based on the data in the table, it can be concluded that the "digital" technologies contributed a lot to the growth of customer loyalty and the stabilization of key indicators. However, it can also be argued that the dynamics of the main indicators of the focus organizations depend on the impact of high-risk factors of external environment, related both to external economic situation and stagnation processes in the domestic economy. At the same time, it is obvious that the introduction of "digital" technologies will make it possible to smooth out the impact of these factors and, consequently, increase business effectiveness of the focus organizations.

Thus, according to the annual report on the results of activities for 2016, the Government Corporation "Rostekhnologii" stated that in the next 3-5 years the

Corporation planned to support almost 80% of management decisions developed and implemented in the risk management system with "digital" technologies [21, 24].

#### IV. RESULTS OF THE RESEARCH

In the authors' opinion, "digitization" of risk management systems involves several changes. The main one is that main types of risks and their characteristics will be identified, analyzed, evaluated and managed based on information obtained from a wider and a richer range of data sources.

In this regard, owners, top managers and risk managers will have at their disposal tools that not only automate main business processes of managing possessory risks, but also execute permanent control over these processes, as well as the tools to simulate a potential management solution for resolution of the most difficult situations.

The introduction of "digital" technologies will allow the owner and managers to use an extended array of analytical data and it will further improve accuracy and consistency of operation of main business processes in possessory management models.

The development of possessory risk management systems based on the "digital" technologies will allow the owner and managers to simultaneously monitor the implementation of solutions for development of the organization's website, the use of mobile applications for development of interaction mechanisms and analysis of customers and partners of the organization. It is important to underline that the basis for all these "digital" solutions should be a flexible architecture of risks data accompanying organization activity.

The introduction of such "digital" technologies will also enable owners and managers within the organization's management system to implement mechanisms of interaction among themselves based on dashboards that allow to analyze in real-time main types of risks and threats, and therefore, enhance the effectiveness of strategic and tactical management of the organization.

Thus, we can conclude that introduction of "digital" technologies in organization's risk management systems and the mechanisms for creation of the organization values will lead to the role and place transformation of the risk management in organization's management system. "Digitization" of risk management will provide more rapid, deeper interaction between owners and managers within the framework of possessory risk management systems and, consequently, understanding the logic of organizational structure of risk management, as well as will increase risk culture of owners and managers.

To realize all the above mentioned, the introducing process of "digital" technologies into risk management systems in Russian organizations must overcome a number of problems.

First, existing risk management systems have significant limitations on the volume and quality of IT infrastructure and the volume of data analyzed by them. So, according to the results obtained in this study, 83% of owners and top managers and 63% of risk managers note that their

organizations use outdated IT systems within risk management systems due to the lack of available high-quality technologies.

Obviously, the quality and structure of IT solutions in the sphere of risk management in Russia is one of the main obstacles for "digitization" of risk management systems.

Secondly, owners of organizations, top managers and risk managers are rather conservative with respect to the prospects of risk management systems development based on "digital" technologies.

And, as a result, they may need a considerable amount of time to adopt and adapt to practical application of concepts such as iterative design, "rapid data collection" and multi-vector commands within their risk management systems.

It is important to note that 46% of the owners, top managers and risk managers interviewed in this study pointed out the development of risk culture of both the organization and its owners and managers as the main task of developing the "digital" economy in Russia.

Thirdly, in the context of "digitization" of risk management systems, the presence and the logic of building interdependence in organizational structure of the company becomes especially important. In modern conditions, risk management system and mechanisms of value creation of the organization acquire a leading role in the processes of regular functioning of the organization. This presupposes the necessity to create or develop mechanisms for interaction between organizational units to ensure effective implementation of the "digital" solutions in the risk management system.

The fourth, one of the main constraints in the development of "digital" technologies in the economy in general and in risk management is the lack of a clear model of government regulation of these processes. As noted by 34% of respondents, the current regulatory requirements for transparency and completeness of data on the condition of organization's management system provided to government management and control can limit the depth and the speed of introduction of the "digital" technologies in organization's risk management systems.

## V. CONCLUSION

In conclusion, it should be noted that the introduction of the "digital" technologies in the possessory risk management system is a special case of a large process of the Russian economy transition to the "digital" era. And it is obvious that "digital" technologies will gradually become the norm for all elements of the organization's management system.

In the long term, "digital" technologies will be spread at the level of a region and the country management systems. But the key task at any stage of the management systems development based on the "digital" technologies should be the development and implementation of elements that would increase the effectiveness of detection, analysis, evaluation and risk management.

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