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DIGITAL TRANSFORMATION OF CORPORATE GOVERNANCE

ABSTRACT

Modern trends in the economy's development are characterized by a significant influence of digital information technologies. Research of the digital economy as a separate industry, the determination of mutual influence with corporations, which are active participants and engines of the development of the digital economy, is becoming increasingly important. The spread of the concept of «digitalization» in society causes some confusion due to insufficient understanding of the essence of this concept and its difference with digital transformation, as well as their role in the digital economy. Digital transformation of corporate governance has its own specific features and characteristics associated with a large number of stakeholders and national characteristics of corporate governance.

The article analyzes the functions of corporate governance at the enterprise. We determine the mechanism and the persons involved in the corporate governance process, focus on the peculiarities of corporate governance in the context of digital transformation of business, and outline the advantages and disadvantages of corporate governance digitalization. The stages for the implementation of digital technologies into the company's corporate governance system are highlighted. The paper examines the features of corporate audit, assessment of systems, and the effectiveness of their interaction. The dilemma of using digital corporate governance complexes is considered: to buy a ready-to-use one or create own? Legal regulation of the functioning of electronic systems of corporate governance in the world's leading companies is especially emphasized. The authors consider in detail the protection of corporate governance in the digital age and conclude about the possibility of corporate blackmail using digital technologies.

Keywords: corporate governance, digitalization of corporate governance, legal regulation of corporate governance digitalization, SWOT analysis of corporate governance

JEL Classification: A100

INTRODUCTION

Modern trends of economic development are characterized by a significant influence of digital information technologies. Research of the digital economy as a separate industry, the determination of mutual influence with corporations, which are active participants and engines of the development of the digital economy, is becoming increasingly important. The spread of the concept of «digitalization» in society causes some confusion due to insufficient understanding of the essence of this concept and its difference with digital transformation, as well as their role in the digital economy. Digital transformation of corporate governance has its own specific features and characteristics associated with a large number of stakeholders and national characteristics of corporate governance.

LITERATURE REVIEW

Digital economy, processes of digitalization, and digital transformation in corporate governance can be traced in the works of Ukrainian scientists and foreign authors including V. Kuryliak, N. Dieieva, N. Chukhrai, M. Makarova, A. Silenko, O. Kopishynska, L. Musina,

O. Hirna, V. Kotelnikov, K. Tsuze, D. Tapscott, N. Lane, L. Margherio, E. Brynolfsson, B. Kahin, T. Mesenburg and others.

The digital transformation of corporate governance is a pretty new concept in the vocabulary of modern business but has already generated the interest of the scientific community [2].

But before starting to study this topic, it is necessary to understand the basic concepts of corporate governance, which are quite successfully described in the articles of Manuel Alfonso Garzón Castrillón [3], Peterdy K. and Miller N. [4].

A number of scientists study the digital transformation of corporate governance, in particular, Ziniuk M., Dyeyeva N., Malyuga N., Fyliuk H., Grygor O., Skrypnyk M., Orlova V. [1, 6]. Also, Shan Y.G. and Troshani I. quite successfully wrote in their article «Digital corporate reporting and value relevance: evidence from the US and Japan» [5] about the importance of digital transformation, its strengths, and competitive advantages, while considering the experience of US and Japanese companies. A similar description of digital processes was given by Tokmakov M.A. [13] and Kalishenko Y. [14] but from a legal point of view, which is very important for understanding the situation as a whole. However, the processes associated with the digital transformation of corporate governance, namely from the point of view of security, are of interest not only to private law firms but also to the state. The Office of the US Director of National Intelligence investigates digital blackmail as an emerging tactic [17]. Also, an important contribution to security is made by Swindle O., Conner B., and «EDUCAUSE», exploring information security in the digital space [15].

The recent years' events have left an indelible imprint on business: the lockdown made it clear to enterprises that they need to be more mobile. This topic was studied in the article of Dyeyeva N., Khmurova V., Ziniuk M. [7].

The study of the digital transformation of corporate governance is of practical importance, which is why many businesses study this topic and try to implement technologies in their business processes. For example, companies such as Unipartner [10], Tricor Group [9], Unosquare [10], Toray Industries, Inc. [11], ProofHub, LLC [12], Withers World Wide [18], Tech-Target Inc [19].

AIMS AND OBJECTIVES

The purpose of the study is to determine the features of corporate governance digitalization, its necessity, and benefits for business, legal regulation of the possibility of using electronic corporate governance systems, as well as analysis of software to improve its efficiency.

METHODS

The methodological basis of the research was legal acts related to digitalization in Ukraine, corporate governance, and joint-stock companies, as well as other data from open sources. The article used comparative analysis, SWOT analysis, as well as statistical analysis, which analyzed various digital technologies used for the effective work of the board of directors and of the enterprise itself. Information for the analysis was taken from the examples of the practical application of certain technologies.

RESULTS

The definitions of corporate governance differ significantly according to the levels and aims of corporate governance implementation by the companies, independence of the adoption of corporate governance principles, the adopted model and the mechanisms of corporate governance, and the expected return from corporate governance for all stakeholders.

In this paper, the authors follow the approach presented in [1], according to which corporate governance is considered as a system of relationships between shareholders (owners) and company's managers on the issues of ensuring the company's efficiency and protecting the interests of the beneficiaries, reducing the opportunities for opportunistic behavior of management. The board of directors is the main governing body, which is responsible for the management of the enterprise to the shareholders. The role of shareholders in governance is to appoint directors and auditors and to ensure that there is an appropriate governance structure. Moreover, the responsibilities of the board of directors include setting the company's strategic aims, providing leadership for their implementation, supervising the management of the business, and reporting to shareholders on their management. Therefore, corporate governance is the system of rules, practices, and processes by which a firm is directed and controlled [2].

Corporate governance involves balancing the interests of many stakeholders of the company, such as shareholders, senior management, customers, suppliers, financiers, government, and society. The authors hold the view [3] that the ultimate goal of the good governance of the company is to add value to it and to ensure that those who directly or indirectly contribute to its establishment can participate in the increase in value. On the other hand, one of the most important principles of corporate governance is the creation of the necessary level of transparency of the company, a high level of reputation, as well as the recognition of shareholders as creators of share capital who buy shares in the company, finance its activities and, in lack of trust in the company, can vote with their feet that is sell shares at a given time.

Corporate governance is the pinnacle in the evolution of any manager. Any successful leader sooner or later goes crazy, and it's very good when there are people who are paid to tell him about it first. When you do not report to anyone, you will easily come to an agreement by yourself. And when you have a supervisory council that looks at your business as an owner, since its members do not depend on your business either emotionally or financially, they can call things for what they are. The most important thing in corporate governance is the quality of the discussion.

Therefore, the formation of a high-quality corporate governance structure determines the distribution of rights and responsibilities between various members of the corporation, such as the board of directors, managers, shareholders, and other stakeholders, and also details the rules and procedures for making decisions on corporate issues, which is detailed in the Principles of Corporate Governance (OECD, 2004). The policy of allowing shareholders to elect the board of directors and have an impact on their level of remuneration is critical. The board's «prime directive» is to be always seeking the best interests of shareholders. The board of directors hires and oversees the executives who form the team that manages the day-to-day operations of a company. This means that shareholders, in fact, have a direct say in how a company is run [4].

Thus, we agree with the postulate that corporate governance is an important basis for ensuring effective, profitable, and ethical business development, and digitalization of the structure requires reform at all levels of the organization and it will bring significant results in the long-term plan [5].

Digitalization in corporate governance is considered [6] as a process of creation of information resources, which makes it possible to better adaptation of corporate governance to the requirements of stakeholders and increase competitiveness using digital technologies. Digital transformation in the area of corporate governance is interpreted as a process of improving existing and creating new business processes for effective management and interaction between all stakeholders.

The coronavirus pandemic has encouraged Ukraine to move actively towards digitalization. The National Commission on Securities and Stock Market of Ukraine decided to approve the «Temporary Procedure for Calling and Remote Holding General Meeting of Shareholders and General Meeting of Participants of the Corporate Investment Fund», which provides new opportunities for corporate governance during the quarantine regime.

According to paragraph 1 of Section I of the Procedure, if, due to the restrictive measures established by the Cabinet of Ministers of Ukraine and provided for by the quarantine in order to prevent the spread of coronavirus disease (COVID-19), it is impossible to hold a general meeting of shareholders and a general meeting of a corporate investment fund (thereinafter – corporate fund) in accordance with the procedure established by the Law of Ukraine «On Joint Stock Companies» or the Law of Ukraine «On Joint Investment Institutions» respectively, such a general meeting of shareholders and a general meeting of participants in a corporate fund may be held in accordance with the requirements established by the Procedure. In addition, the Procedure provides the possibility of postponing the general meeting of shareholders at the end of the quarantine period established by the Cabinet of Ministers of Ukraine in order to prevent the spread of coronavirus disease COVID-19 on the territory of Ukraine. Such general meetings must be had no later than three months after the date of completion of the specified quarantine. The Verkhovna Rada of Ukraine on March 30, 2020, adopted the Law of Ukraine «On Amendments to Certain Legislative Acts of Ukraine Aimed at Providing Additional Social and Economic Guarantees in Connection with the Spread of the Coronavirus Disease (COVID-19)», which aims to help business and society of Ukraine adapt to the changes relating to the crisis.

According to this law, changes are made to the Tax Code of Ukraine, the Customs Code of Ukraine, the Economic Code of Ukraine, the Family Code of Ukraine, the Civil Code of Ukraine, the Code of Labor Laws, the Code of Ukraine on Administrative Offenses, the Code of Civil Protection of Ukraine, the Code of Administrative Procedure, etc.

As a result of the adoption of this Procedure, the law, and the changes in the laws, corporate governance went online, and as a result, meetings of the boards of directors began to take place online using digital technologies [7].

These innovations in Ukrainian legislation provide a powerful impulse for digital changes in the area of corporate governance. Thus, a refusal of traditional working methods and organizational bureaucracy has fundamental importance for the successful transformation into a developed and advanced company with digital technologies.

For the successful implementation of digital governance, first of all, an organization should be agile and ready for changes. Organizational agility translates into business value. McKinsey & Company has defined the concept of Organizational Agility as the ability an organization has to renew itself, adapt, change quickly and succeed in a rapidly changing and turbulent environment. Understanding this concept is fundamental in order to instill digital transformation in any organization. Having great agility allows the workforce to stay motivated while responding to change. This way, they will be able to continue to perform to the best of their abilities no matter the challenges and business environment changes that come their way [8].

It is important to understand that the digital transformation of corporate governance provides a very wide range of benefits, such as savings. It can concern not only money but also staff time, decision-making time, etc. In addition, if you look at it, you can separate the tangible and intangible benefits, which are presented in Table 1.

№	Advantage	Description
1	Secured and improved collaboration	The ability of remote communication is critical for modern business, with this option, members of the board of directors can perform their duties being far from each other, including being on the road. In addition, for greater convenience, it is useful to be able to exchange electronic documents in a secure manner [9].
2	Enhanced information flow	Information is one of the most important parts of business performance, it should be available for viewing, discussion and, if necessary, editing for all interested parties [9].
3	Increased participation	Virtual meetings allow a large number of participants to participate in them and make decisions remotely [9].
4	Transparency	By making a centralized system for intra-corporate discussions, you can avoid all kinds of manipulations and unnecessary financial costs [9].
5	Managing conflicts of interests	Digitization of the enterprise information space can help minimize the potential for conflicts of interest, and this approach to information can allow each member of the organization to report identified conflicts of interest [9].
6	Access to historical records for reference	Digitization of data allows you to save and reproduce data from each meeting, including the results of voting on certain issues. Such data fixation will help to easily find the necessary information in case of any checks [9].

As can be seen, the digitalization of corporate governance has a number of strong advantages that undeniably make it especially important in the modern realities of the business vision. An enterprise may reach a new development level and achieve serious competitive advantages in comparison with competitors with its help. Proper use of all these opportunities will lead to the rapid establishment and strengthening of positions in a digital business environment.

In addition, there are weaknesses that undoubtedly should be taken into consideration, since they may lead to the specified list of threats. It is relevant to bear in mind the process of digital transformation of corporate governance. These weaknesses and threats may become decisive advantages for competitors in fierce competition, using which they can seriously do harm and increase their market share as a result. The conducted SWOT analysis of corporate governance digitalization is presented in Table 2.

<p style="text-align: center;">Strengths</p> <ul style="list-style-type: none"> ▪ Convenience and speed of making management decisions ▪ Versatility of digital solutions for corporate governance ▪ Application of artificial intelligence in management processes ▪ Full automation of production and service processes ▪ Flexibility increase and acceleration of business processes 	<p style="text-align: center;">Weaknesses</p> <ul style="list-style-type: none"> ▪ Not all employees are ready to change and use digital technology ▪ Additional costs for digitalization organization ▪ The need to involve qualified workers with information systems skills ▪ The need to upgrade production assets, including automated and robotic complexes ▪ Staff training in new information technologies and methods of working in the information environment
<p style="text-align: center;">Opportunities</p> <ul style="list-style-type: none"> ▪ Improving the image in the eyes of employees and clients ▪ Competitive advantage ▪ Workspace virtualization ▪ Digital format of internal and external workflow ▪ Use of cloud technologies for secure data storage ▪ Fast generation of reports ▪ Qualitative changes in the control of the enterprise 	<p style="text-align: center;">Threats</p> <ul style="list-style-type: none"> ▪ Cybercrime ▪ The rapidly changing world of digital technologies ▪ Regulator problem (public or private) ▪ Change of corporate culture ▪ Control of ethical responsibility ▪ Corporate blackmail and, as a result, market manipulation

Contrary to popular belief, it is not enough to simply transform an organization's manual processes to a digital platform to achieve digitalization goals. It is necessary to take into account the factors identified in the SWOT analysis and focus on the recommendations of the best practices for the digitalization of corporate governance in carrying out digital transformation, and its further maintenance, and development. The experience of leading companies made it possible to form the main steps for the digitalization of corporate governance, presented in Table 3.

Table 3. Five steps that can be taken to achieve success through a digital transformation of corporate governance.

№	Name	Description
1	Define your vision	The first thing to think about before undertaking a digital transformation is its purpose. To determine it, first of all, it is necessary to find: strategically weak points, and vulnerabilities; technological solutions necessary for the employees of the enterprise; problems, the solution of which will help employees in their daily routine. Understanding the result that needs to be achieved will help to create a clear action plan, following which a number of important strategic objectives will be implemented. In addition, do not forget about customers, because digital transformation affects them too [10].
2	Involving leaders	Leaders always have a special influence on processes, so an important component of success is to attract the right people who can become such leaders. There are statistics that show that enterprises are 1.6 times more likely to carry out a successful digital transformation if one important condition is met - the presence of a director of information and digital technologies. Such a director plays the role of a leader in the transformational processes associated with digital technologies [10].
3	Culture	The global digital transformation of the enterprise is easier, faster and more successful when the appropriate culture is created in the team. It is an integral part of the corporate culture and requires a certain vision for all employees. Having such a culture, it is easier for management to introduce new technologies and change the similar approach to business processes to digital [10].
4	Resources and experience	The implementation of digital transformation requires the presence of specialists with experience in carrying out such changes, moreover, it is necessary to assemble a team of like-minded people who will do this. In addition to experienced professionals in this industry, you can take on a team of specialists from various departments of the enterprise, but it is important to note that such people should have a number of qualities, primarily curiosity and a craving for modern technologies. They should easily perceive new concepts of building business processes and the enterprise as a whole and, of course, be ready for something new [10].
5	Choice of the right technology	Today, the software market is literally crowded and offers an endless variety of different software for any task. Unwilling to spend enough time researching this market, business leaders often make hasty decisions in favor of software that may mistakenly seem appropriate. Such decisions lead to a waste of money and time. To prevent this, it is necessary that the technology matches your strategy and solves the issues for which the company invests in it. The choice in favor of one or another software should be made only if both of the above factors are present [10].

All the changes that take place in today's business environment force companies to introduce new technologies. Digital enterprise management aims to establish a structure which ensures that business transformation processes occur quickly, efficiently, and safely. With the rapid development of technologies, companies can take advantage of intelligent systems to improve business efficiency and optimize interactions within the company to a highly efficient level. Companies that have not achieved digital efficiency may find something to offer to both internal and external stakeholders and customers (including liaising with the board of directors). Since corporate governance consists of a number of interconnected components – the board of directors, CEO, committees, compliance department, and directors, so the task of digitalizing corporate governance is the effective interconnection between its elements through digital technologies. This is achieved through a set of IT solutions designed to make digital business fast, smooth, and optimized at all levels [11]. Large and small companies in the process of digitalization find a complex digital corporate governance that will give the highest performance indicator, developed by the company or developed by other developers and ready for use.

The digital complex of corporate governance is software that is used by an enterprise for the purpose of digitalization of business processes. This complex is designed to ensure the elimination of weaknesses in the structure of the enterprise, improve information security, and perform special business tasks and a number of other useful functions that the enterprise can deliver on an individual basis. There is a huge selection of programs on the software market, the purpose of which is the digitalization of individual business processes. When choosing the most suitable software, you should first decide on the purpose of such a choice: enterprise asset management, CRM, simplified and more secure databases, etc. It should be noted that the most effective is the combination of different software. In addition, it is important to take into account the individual characteristics of each business for which the corresponding software is selected: the field of activity, the size of the enterprise, the structure of the enterprise, etc. During digital transformation, it is important for an enterprise that digital solutions affect project management, human resource management, calculation of the performance of individual structural units, and other parameters necessary for the normally progressive operation of an enterprise. Table 4 shows examples of the most popular software that perform the main functions required by the enterprise in the current realities [12].

Table 4. Most popular software that performs the main functions required by the enterprise in the current realities.

№	Software name	Description	Top Features
1	ProofHub	This software provides an opportunity to digitalize almost all business processes of the company. In addition, ProofHub has the function of exchanging electronic documents, which is undoubtedly a big advantage among programs of this kind [12].	<ul style="list-style-type: none"> ▪ Effective project and task management; ▪ Gantt charts for project management; ▪ Dynamic reports to obtain clear information in a short time; ▪ Time recording [12].
2	StudioCloud	StudioCloud has established itself as a solution for realizing the digitalization of corporate governance with secure remote access [12].	<ul style="list-style-type: none"> ▪ Manage clients, partners, and vendors; ▪ Create and send invoices; ▪ Send automated, personalized, text and email reminders; ▪ Have clients review and sign contracts online [12].
3	Timely	An important aspect of the efficient operation of a business is the accounting of time, as well as its efficient use by all employees. Management should track the time spent by employees on a particular task in order to optimize the operation of the enterprise. Timely can help solve this issue [12].	<ul style="list-style-type: none"> ▪ Automated time tracking; ▪ Real-time projects management ▪ Thoughtful, client-friendly reporting [12].
4	Scoro	In order for the actions of the employees of the enterprise to be coordinated, they must be combined into teams, and Scoro will help to make this easier and better. In addition, this software can exchange reports [12].	<ul style="list-style-type: none"> ▪ Plan and track work with unlimited projects; ▪ Manage quotes, contacts, and invoices seamlessly; ▪ Track time and bill for completed work accurately; ▪ Manage the entire business within a single solution [12].
5	iBE.net	For a medium-sized business, iBE.net is perfect because the functionality of this software allows you to maintain both financial and management reporting, and accounting in the context of accounts. In addition, iBE.net has the ability to support CRM [12].	<ul style="list-style-type: none"> ▪ Customize own dashboards; ▪ Use pre-delivered reports; ▪ Generate invoices in seconds; ▪ Visualize, analyze, and organize data with valuable insights [12].
6	Netsuite	For a particular business industry, the Software used for corporate governance may differ. Despite this, there is Netsuite - a complex designed for a large number of industries and with sufficient functionality [12].	<ul style="list-style-type: none"> ▪ Cloud-based technologies; ▪ Easily accessible reports and key performance indicators; ▪ Highly flexible and customizable software; ▪ Effective corporate governance, resource management, project accounting, timesheet, and expense management [12].
7	Bitrix24	For every modern enterprise, an important aspect of daily work is communication both within the organization and external communication with partners, customers, etc. Bitrix24 allows you to be in touch at any convenient time via video communication, as well as exchange electronic documents quickly and safely [12].	<ul style="list-style-type: none"> ▪ An internal social network lets you collaborate easier, faster, and more efficiently; ▪ Get instant feedback, share ideas, create workgroups and engage the employees; ▪ Interactive multi-user editing and custom document approval workflows; ▪ Management of the Sales department [12].
8	e-BDS	The current realities of business are accompanied by some innovations in terms of communication, which also affected the board of directors. The impossibility of face-to-face meetings should not affect the business, so the e-BDS developers have developed software to enable remote meetings of this kind [12].	<ul style="list-style-type: none"> ▪ Members of the board of directors can legally participate in online meetings ▪ Meetings without regard to time and place; ▪ Decisions are made quickly and documents are digitally signed [12].

These software packages are mainly developed by taking into account the requirements of small companies. At the same time, large corporations use their own digital corporate governance complexes which include the specifics of the company's work. The assessment of the advantages and disadvantages of each of the options for obtaining and using digital corporate governance complexes is presented in Table 5.

Table 5. Advantages and disadvantages of various software systems for digital corporate governance.

№	Purchased	
	Advantages	Disadvantages
1	A turnkey universal solution that can be integrated into corporate governance of an enterprise	It is difficult to implement due to the unique characteristics of each organization
2	There are no costs for the staff of programmers necessary to maintain the functionality of the complex	Poor understanding of outside specialists how exactly work occurs within the organization, as a result of which the complex may be configured incorrectly
3	Technical support is available in most cases	Any new developments and improvements should be paid separately
№	Own	
	Advantages	Disadvantages
1	A complex is developed for a specific organization, taking into account all its features	A staff of employees is required for the development and implementation, as well as the subsequent maintenance of the complex operability
2	There is well-organized communication with developers and quick resolution of emerging issues without a third party	There are fixed maintaining costs for a staff of developers, independent search or purchase of servers for storage and processing data
3	Control over the complex is carried out exclusively by the company. There is no access for third parties	The company is responsible for the performance and storage of data

Thus, the company has evaluated the aspects of using digital complexes and makes a choice in favor of one of them. It is also important to take into account the national aspects and peculiarities of corporate governance and the country's approaches to digitalization in general.

The law cannot change as quickly as technology. The task of the law, on the one hand, is not to hinder technological progress (legal barriers or legal uncertainty often block this), and on the other hand, it is necessary to build the required models of behavior in a changing environment, preventing negative consequences from the use of new technologies. At the same time, it makes sense to talk about the need to change legal regulations only if it is impossible to solve these problems. It is not reasonable to change the law in order to please hype or political trends just because technologies have changed. Forms are changing, but not content [13]. Considering the Ukrainian realities, it is necessary to note a progressive approach to digitalization in general. The conceptual foundations of state policy in the field of informatization, development of the information society and electronic government are defined primarily in a number of legislative acts, such as the Law of Ukraine «On Information» dated 02.10.1992 No. 2657-XII, the Law of Ukraine «On Scientific and Technical Information» dated 25.06.1993 No. 3322-XII, the Law of Ukraine «On the Basic Principles of Development of the Information Society in Ukraine for 2007-2015» dated 09.01.2007 No. 537-V, the Law of Ukraine «On the National Informatization Program» dated 04.02.1998 No. 74/98, the Law Of Ukraine «On the Concept of the National Informatization Program» dated 04.02.1998 No. 75/98-VR, the Law of Ukraine «On Telecommunications» dated 18.11.2003 No. 1280-IV, the Law of Ukraine «On the Protection of Personal Data» dated 01.06.2010 No. 2297-VI, the Law Of Ukraine «On the protection of information in information and telecommunication systems» dated 05.07.1994 No. 80/94, the Law of Ukraine «On electronic documents and electronic document circulation» dated 22.05.2003 No. 851-IV, the Law of Ukraine «On electronic trust services» dated 05.10.2017 No. 2155-VIII and others. According to these and a number of other acts of information legislation, the state organizes, coordinates, and controls the relations arising in the process of introducing electronic government between the state and business, international and public organizations, and citizens. Therefore, the above-mentioned sources of information and legal norms make it possible to conclude that the provisions, articles, and regulatory legal acts of administrative legislation belong to information legislation. On the contrary, administrative legislation contains information and legal norms [14].

Insufficient level of data protection and the emergence of opportunities for corporate blackmail are considered the main disadvantages of digitalization in corporate governance.

IT Security governance (IT Security) is the system by which an organization directs and controls IT security in the digital space (adapted from ISO 38500). IT security management is concerned with making decisions to mitigate risks. Top

management determines who is authorized to make decisions, specifies the accountability framework, and provides oversight to ensure that risks are adequately mitigated, while management ensures that controls are implemented to mitigate risks. The National Institute of Standards and Technology of the USA describes IT governance as the process of establishing and maintaining a framework to provide assurance that information security strategies are aligned with and support business objectives, and are consistent with laws and regulations through adherence to policies and internal controls, and provide assignment of responsibility [15].

The security and efficiency of corporate governance are ensured by a special infrastructure, the reliability of which directly depends on the state of information security of the network environment. Nowadays, there is no single technology that provides a solution to all the problems that we face. Sufficiently broad in meaning is the concept of information security. At first glance, it may show that this is a number of technical parameters, while in fact, it is not. Information security is a consequence of corporate governance, including risk control and related reporting, for which it is primarily the responsibility of management. Prudent management of information security will provide an opportunity to create a secure business environment within the enterprise for its customers and other stakeholders.

An example of an effective impact on information and digital security is the US authorities, who have adopted a number of laws affecting almost all internal business processes - from management reporting to information security. This was a consequence of the high concern on the part of stakeholders for security management and risk control. Today's realities of doing business clearly show how serious the consequences of hacker attacks, viruses, and cyber terrorism can be, including on business. That is why the actions of top management should be timely in the presence of risks of this nature. Any, even the smallest, breach in a company's network security is a weak point that hackers can exploit. In this regard, you need to keep track of every even minor incident, otherwise, it can become very costly. The integration of information security policy should be at all levels of enterprise management and in the daily work of each employee. Effective digital security management provides an enterprise with undeniable competitive advantages. This is not only compliance with the law, but also an increase in the level of completion of both customers and employees of the company itself. In addition, it can have a positive effect on the company's financial results [16].

Digital Blackmail represents a severe and growing threat to individuals, small businesses, corporations, and government entities. The rapid increase in the use of Digital Blackmail such as ransomware; the proliferation of variants and growth in their ease of use and acquisition by cyber criminals; weak defenses; and the anonymous nature of the money trail will only increase the scale of future attacks. The private sector, non-governmental organizations, and government cyber security experts were brought together by the Office of the Director of National Intelligence and the Department of Homeland Security to determine emerging tactics and countermeasures associated with the threat of Digital Blackmail. In this paper, Digital Blackmail is defined as illicitly acquiring or denying access to sensitive data for the purpose of affecting victims' behaviors. Threats may be made of lost revenue, the release of intellectual property or sensitive personnel/client information, the destruction of critical data, or reputational damage. For clarity, this paper maps Digital Blackmail activities to traditional blackmail behaviors and explores methods and tools, exploits, protection measures, whether to pay or not to pay the ransom and law enforcement (LE) and government points of contact for incident response. The paper also examines the future of the Digital Blackmail threat.

Digital Blackmail may originate from insider threats, individual hackers, organized cybercriminal organizations, hacktivists, and state-sponsored actors. The tools for executing a ransomware attack are not only easy for an attacker to obtain and use, but are also relatively inexpensive.

However, Digital Blackmail differs from traditional blackmail in its ease of development and delivery, the speed and volume of attacks that can be mounted simultaneously, and its unique detection challenges. Still, Digital Blackmail has many commonalities with traditional blackmail in the techniques used to extort (i.e., money, ideology, compromise, ego) and its goals (intelligence gathering, destabilization of the social fabric, influencing behavioral or policy change, financial gain, etc.). As such, it is useful to keep in mind that, although the medium of delivery is different, Digital Blackmail is still a traditional crime [17].

Corporate digital blackmail involves obtaining information – sometimes as simple as email addresses and perhaps credit card details of business clients – and threatening the company that they will be released publicly knowing that will risk the ruin of the company's reputation and result in significant costs. It is important to realize that in contrast to blackmailing many high-profile individuals; the stolen information may not reveal any misdeeds. This threat arises from the fact that it is information about third parties that the company had been entrusted to keep safe and its release will damage consumer trust and confidence.

There is a lot for a corporate target to think about in these circumstances and many immediate challenges for the General Counsel and the Board: notification obligations under the General Data Protection Regulation, urgent IT investigations and security fixes, reporting to regulators, communications plans, working with law enforcement and business continuity. Most businesses with the resources to do so now invest in «war gaming» a hacking scenario as a part of crisis readiness.

There are many responsive strategies to blackmail, and perhaps its greatest challenge for the in-house legal team is there is rarely a «right» or obvious answer. It is an exercise in judgment, in circumstances where usually no one has any prior experience [18].

An enterprise is constantly generating large amounts of data, and the security of that data can have serious implications for the entire organization. Technologies have traditionally served as the basis for data protection. However, cyber threats are evolving; the tools that companies use to prevent them are being designed too. Antivirus software and differential passwords are a great start, but they hardly cover the complexities required to protect business data. Businesses need next-generation technologies to counter next-generation threats. Five available embedded technology solutions to ensure digital security: firewalls or intrusion defense NGFWs (IPS), DNS protection, endpoint protection, cloud security, and email gateway security [19].

Each of these solutions represents just one point in an entire ecosystem of solutions that enterprises can and should use today to protect business data. Their effectiveness depends on supportive teams and processes that use them correctly while these tools lay a solid foundation. There is no universal data security solution, and every organization has its own considerations and concerns. Cyber security starts with people, not technology.

DISCUSSION

Previously, digital transformation was considered by scientists superficially, affecting only certain areas of the business [1-5]. This article explores digital transformation in more depth from a corporate governance perspective, providing examples of software that solves specific problems, analyzing existing points of view, and deriving all the advantages and disadvantages of certain solutions. Using SWOT analysis, the authors of the article showed the strengths and weaknesses of the digital transformation of corporate governance.

CONCLUSIONS

Corporate governance is considered as a system of relationships between shareholders (owners) and the company's managers on the issues of ensuring the company's efficiency and protecting the interests of beneficiaries, as well as reducing the opportunities for opportunistic behavior of management. The main aim of a company's corporate governance is to increase its value and create the required level of transparency of the company. Corporate governance is an important basis for ensuring effective, profitable, and ethical business development, and the digitalization of the structure requires reform at all levels of the organization and it will bring significant results in the long-term plan. Digitalization in corporate governance is considered as a process of creation of information resources, which makes it possible to better adaptation of corporate governance to the requirements of stakeholders and increase competitiveness using digital technologies. Digital transformation in the field of corporate governance is interpreted as a process of improving existing and creating new business processes for effective management and interaction between all stakeholders. Savings in cost, effort, time, and resources are certainly one of the primary additional advantages of digital corporate governance solutions. However, at a higher level, they offer both tangible and intangible advantages and provide a powerful impulse for digital change in corporate governance, which is fundamental to successfully transforming into a developed and advanced digital company. For the successful implementation of digital governance, first of all, an organization should be agile and ready for changes. Digitalization of corporate governance has a number of strong advantages, but there are also weaknesses that undoubtedly need to be considered. It is necessary to consider many factors in the business such as size, needs, tasks, and processes that should be digitalized when choosing corporate governance software. The advantages and disadvantages of various digital corporate governance software systems both owned and acquired should have such characteristics as project and task management, time tracking, file storage and document sharing, budget management, billing, and resource management. The infrastructure that ensures the efficiency and physical security of corporate governance is only as strong as the information security that supports the networked environment. While enormous achievements have been made in today's world, there is no single technological solution to the challenges we face. Digital Blackmail represents a severe and growing threat to individuals, small businesses, corporations, and government entities.

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ЦИФРОВА ТРАНСФОРМАЦІЯ КОРПОРАТИВНОГО УПРАВЛІННЯ

Сучасні тенденції розвитку економіки характеризуються значним впливом цифрових інформаційних технологій. Дослідження цифрової економіки як окремої галузі, визначення взаємовпливу з корпораціями, які є активними учасниками та двигунами розвитку цифрової економіки, набувають все більшого значення. Поширення в суспільстві поняття «цифровізація» викликає певну плутанину через недостатнє розуміння сутності цього поняття та його відмінності від цифрової трансформації, а також їх ролі в цифровій економіці. Цифрова трансформація корпоративного управління має свої особливості та особливості, пов'язані з великою кількістю стейкхолдерів та національними особливостями корпоративного управління.

У статті проаналізовано функції корпоративного управління на підприємстві. Визначено механізм та осіб, залучених до процесу корпоративного управління, акцентовано увагу на особливостях корпоративного управління в умовах цифрової трансформації бізнесу, окреслено переваги та недоліки цифровізації корпоративного управління. Висвітлено етапи впровадження цифрових технологій у систему корпоративного управління компанії. У роботі розглядаються особливості корпоративного аудиту, оцінки систем та ефективності їх взаємодії. Розглядається дилема використання цифрових комплексів корпоративного управління: купувати готовий чи створювати власний? Особливо акцентовано правове регулювання функціонування електронних систем корпоративного управління у провідних компаніях світу. Автори детально розглядають захист корпоративного управління в епоху цифрових технологій і роблять висновок про можливість корпоративного шантажу за допомогою цифрових технологій.

Ключові слова: корпоративне управління, цифровізація корпоративного управління, правове регулювання цифровізації корпоративного управління, SWOT-аналіз корпоративного управління

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