

MANAGEMENT OF FINANCIAL RISKS IN DIGITAL ECONOMY DURING THE COVID-19 PANDEMIC

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Abstract

The demand for new institutional circumstances for finance and investment strategies emerges in an uncertain business environment. The paper explores the characteristics of financial risks and its controls in the perspective of digitalization during the covid-19 pandemic. Covid-19 has caused a significant impact on production, operations, valuations, security, financial stress, and hazards in this digital economy. The analysis of these variables allows for the determination of financial risk management principles based on digitalization and digital technology. Modern concepts of uncertainty theory and financial risk management solutions are combined with an investigation of factors and development in these digital technologies. Furthermore, the study identifies the managing risks of current digitalization in the growth of financial systems of digitized economy in covid- 19.

Keywords: Covid-19, Risk and Financial Management, Digital Economy, Sustainable Development, Financial Control.

1. INTRODUCTION

The pandemic SARS-CoV-2 coronavirus has wreaked havoc on the world order, undermining the financial markets and the global economy. This has far consequences for the global social development, economy, business, risks in financial management and markets. COVID-19 has created significant ambiguity, which has resulted in anxiety and getting out of control in financial markets. Tourism, hospitality, travel, consumption, supply chains, operations, production, financial stress, security and the prices of all items, including renewable energy sources and fossil fuel, have all been impacted by the COVID-19.

In today's reality, digital technologies, when combined with financial control tools, are becoming a key requirement for economic growth and a role in ensuring the financial stability of industrial businesses in the real economy. The financial crisis and the enforced sectoral sanctions continue to have an impact on the global economy, causing a change in investor expectations and a reconsideration of investment strategy. The growth of uncertainty in the business environment generates an unbiased supply of new legislative and institutional conditions for the implementation of investment and financial strategies in a risky environment.

Leading analytical and consulting firms started to include "system risk" as an economic group in industrialised countries [5]. The World Economic Forum's Global Hazards Report at Davos in 2017 was a defining moment in the study of risks. The report's

findings are based on a survey of 750 professionals who evaluated the likelihood of 30 global threats and their effects. Economic, technological, geopolitical, social, and ecological threats were all categorised into five categories [8].

The introduction of new sorts of hazards and risks in economic processes and relationships is a result of the digital economy, which has an impact on the entire system of regulating global socio-economic processes [6]. The construction of new foundations to allow operation in the global digital environment is necessitated by the ever-increasing degrees of dangers [10]. Economic turbulence becomes stronger as a result of these impacts, and it becomes a self-replicating and self-growing phenomenon that market systems cannot control [13]. To lower the level of uncertainty in the economy, relevant knowledge and financial regulatory technologies, such as digitalization, analytics, and big data, as well as a new financial control model based on them, are required.

COVID-19 in economics, business, and finance in contemporary digital economy, uses state-of-the-art applications of statistical and mathematical approaches in financial risk management. One of the main goals of this Special Issue was to look at unknown and unresolved topics in finance related to the major and current COVID-19 pandemic in the digital economy. As a result, the next section discusses some of the challenges raised in this pandemic's risk management concerns in the corporate and financial sectors of the digital economy.

2. RELATED WORKS

Chang et al. (2020) investigated and has forever transformed the world and has had a substantial impact on the hospitality industries, international travel and tourist that are extremely sensitive to significant threats like COVID-19. McAleer (2020a) analysed risk management using the Global Health Security (GHS) Index, continuing the concept from Chang and McAleer (2020). McAleer (2020b) examines COVID-19 disease diagnostic testing from the statistical perspective of n - number of tests to achieve the significant and essential identification of a positive class instead of a negative ideal solution.

Centor et al. (2019) looked at different strategies for calculating the likelihood of a correct diagnosis. Wu and McGoogan (2020) looked at COVID-19's characteristics and key takeaways. Based on big data analytics, innovative technologies, and proactive testing, Wang et al. (2020a) revealed Taiwan's quick and efficient response to COVID-19. Based on a clinical assessment of individuals with weakened immune systems, Wu et al. (2020) assessed the risk variables linked with COVID-19. Hopman et al. (2020) investigated COVID-19 management in low- and middle-income nations. In response to COVID-19, Merchant and Lurie (2020) looked at emergency and social media preparedness. Social media is intended to be a platform for the spread of informative information based on verifiable facts rather than a place for personal opinion. Presidential powers and the response to COVID-19 were analysed by Gostin et al. (2020). Bauchner and Easley (2020) praised COVID-19's courageous health care heroes for their incomparable contributions to frontline health care. The Russian Federation, like any other country, must anticipate and respond to emerging economic, political, social, and cultural developments resulting from the globalized digital world (Osipovich et al., 2018).

Financial markets and their behaviour have been the subject of recent COVID-19 studies (Liu et al. (2020), Khattak et al. (2020)). Obviously, decentralized registration technologies have benefits and drawbacks (Vovchenko et al., 2018), although in aspects of digitization and speeding up corporate governance, the effect of expedited financial risk transfer from the meso and macro levels to the micro level emerges. Unlike the global financial crisis of 2007, which began in the financial sector and spread to the 'real economy,' the COVID-19 issue is exogenous in nature, with roots in the 'real economy' and is converting into a financial catastrophe. As a result, a sectoral study is necessary to fully comprehend the effects of COVID-19 on the general economy and financial markets of India.

3. MATERIALS AND METHODS

In this covid-19 pandemic, the study has a hypothetical foundation built on the precepts of the institutional theory, economic and systems theory, organisational management theory, financial globalisation theory and the recent concepts of uncertainty theory and financial risk management in this digitization. The following are the financial risk factors associated with digitization:

1. Managerial financial risks. This set of financial management risks is linked to the elements already mentioned, but it has the most significant implications of structural and organisational sectors and enterprises. The development of new forms and techniques of engagement between firms and organisations is required by the digital economy. As a result, new techniques to acquiring and evaluating new managerial competencies are needed now and in the future.
2. Socio-economic risks. Global social information, and commercial networks, as well as the Internet of Things and crypto-currencies, support modern economic systems. In this pandemic, financial processes are exposed to international platforms with accessibility to personal and private data.
3. Technological financial risks. These are mostly linked to cyber-security provisions. In the case of digitalization, business operations are carried out with information technologies and are constantly transformed. Hackers are continuously searching for and exploiting weaknesses in the law enforcement agencies and security systems of banks and the scope and quantity of computer crimes is growing in this pandemic.

4. EXPERIMENTAL RESULTS

In this covid-19 epidemic, the expanding financial sectors of all aspects of the global economic system, together with the active growth of digital technology. It is defined by factors and trends that are not taken into account in economic key principles. The digitization of a virtual financial market results in the loss of control and even monitoring of global financial flows. Only a low level of confidence and comparative analysis can be used to keep track of implicit international money flows. Without a corresponding organisational sector, a sufficient number of financial resources, and the use of financial technology, capitalizing of an intellectual asset is difficult.

The rating and ranking of real economy firms is mainly based on indications from financial statement forms, as well as groupings of data from financial analysis, according to a study and analysis of business ratings. At the same time, the degree of financial potential that differs from the level of financial stability in terms of economic

content is left out of the study. It is possible to construct a more reliable idea not only of the integrated level by combining the data of risk of financial potential (Table 1) with industrial company structures, which, in turn, will allow establishing more accurately an economic strategy. Figure 1 also depicts the risks associated with financial indicators.

Table 1: Financial potential of an industrial corporation's companies

Risks of financial indicators	Financial stability		Trends	
	Before Covid	After Covid	Before Covid	After Covid
Liquidity management	0.76	0.85	-0.026	-0.092
Accounts receivable and accounts payable	0.53	0.72	-0.075	0.082
Business management	0.29	0.48	-0.078	-0.154
Financial independence	0.52	0.64	-0.050	-0.085
Profitability and financial results	0.34	0.59	-0.082	-0.106

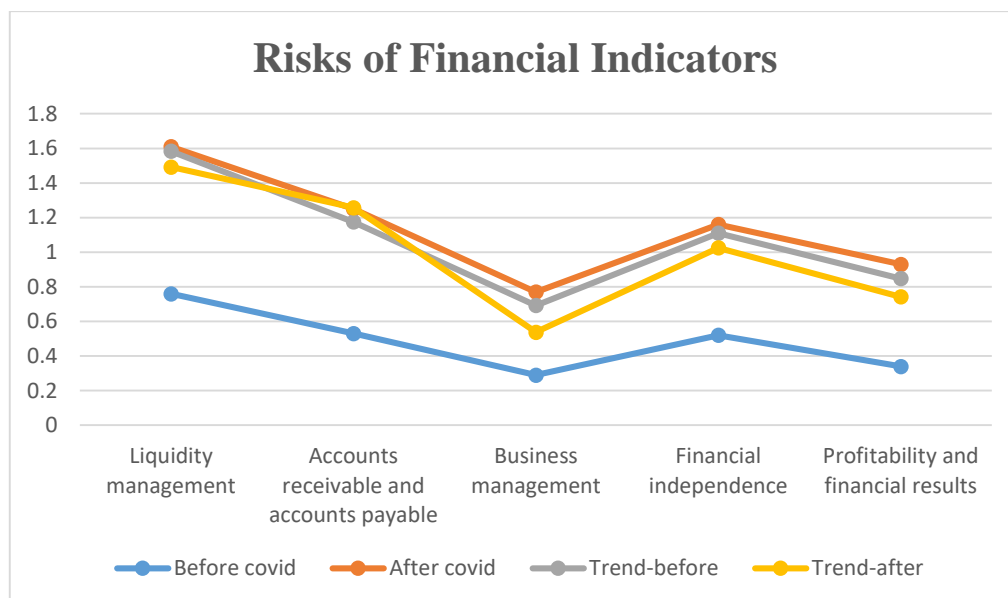


Figure 1: Risks of Financial indicators

Due to the obvious change in average between the epidemic and pandemic phases, this analysis may be limited. To begin with, we see that average systematic risks across all sectors decreased from epidemic to pandemic stage, which may have occurred due to a reduction in panic and media frenzy that peaked during the epidemic stage. Table 2 shows the average systematic risks for COVID 19 over the entire study period, as well as the samples divided into Epidemic and Pandemic periods.

Table 2: Risks of Epidemic and Pandemic

Convectional Sectors	Epidemic	Pandemic
Basic material	0.845	0.972
Consumer services	0.864	0.918
Industrial	0.998	1.114
Healthcare	0.842	0.689
Telecom	0.538	0.628
Financials	0.925	1.327
Technology	1.521	0.964
Utilities	0.455	0.853

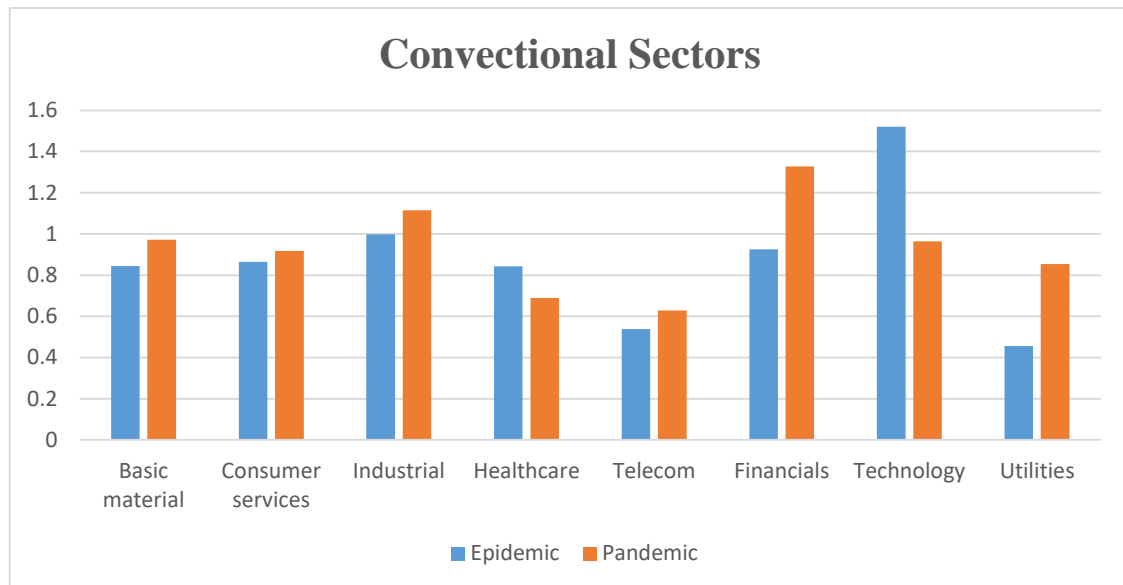


Figure 2: Convictional sectors- Epidemic and Pandemic

As a result, we see a stable results in conventional sectoral indices, as shown in figure 2, but, remarkably, in the pandemic phase, the systematic risk of sectoral stocks jumps higher than their conventional counterparts, for Consumer Services, Financial Companies, Health Care, and technological sectors in this digital economy. This could be due to the recent crises' character, that resulted in anxiety and lockdowns. The higher-equity enterprises that make up the sectoral constituents were put under pressure by the continuous lockdowns, whereas leveraged corporations benefited from bail outs via banking sector subsidies.

In this digital economy, the results in the pandemic phase could also be owing to the embeddedness of not reacting in the outbreak. Surveillance systems should ensure that critical indicators for real-economy companies are tracked. This will enable short-term trends to be distinguished from long-term tendencies. As a result, in terms of the digital economy, financial risk management innovators get substantially larger returns on their investments in terms of finance. During a pandemic, increased revenue has key benefits of investing in new technologies that are acquiring valuable experience with customer engagement and managerial decision-making optimization. Finally, cyber-security is an important aspect of effective risk management. In terms of risk management, we identify the following characteristics of innovation companies:

- high levels of involvement in the implementation of the digital transformation strategy;
- attributable attention paid to the competencies required for the integration of digital technologies;
- continuous responses to provide for measures to minimize the adverse effects of financial risk factors;
- effective coordination and interaction with professionals in financial risk management responsible for the integration of digital technologies in this covid pandemic;

As a result of this development, a company's digital transformation strategy becomes a foundation for developing financial risk management as a corporate culture aspect. Innovative firms that have a clear corporate digitalization strategy modify their activities in order to become top achievers in the financial sector.

7. CONCLUSION

Changes brought about by the digitization of the economy have an impact on all sectors of social life. Modernization delivers significant benefits while also magnifying existing and potential financial threats. It was evaluated in terms of its dynamics. It was established which ways it will have an impact on economic systems. The financial risks and potential for the development of the digital economy were analysed. The importance of implementing interactive interagency collaboration with the objective of supporting the real economy's digital development during covid-19 was constrained. Aside from that, the role and importance of risk-oriented control in the modelling of financial management systems of large manufacturing organisations in terms of digitalization were demonstrated. This enabled the formation of a new framework to systemically vital elements of the digital economy's organisational, financial, institutional, and legal infrastructures. The study identifies the main groups of hazards experienced throughout the digitization process, as well as ways for avoiding such threats - the purpose is to minimize the likelihood of risks in future economic digitization during a pandemic. Instruments proposed to reduce financial risks should be based on cooperative activities by the state, businesses, and society, considering the needs of all economies and benefiting from the digital economy.

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