



Impact of the COVID-19 Pandemic on a Financial Management Information System and Crisis Management of Organizations

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Abstract

The COVID-19 pandemic posed a great threat, not only to the health of the people but also to the health of the economy and businesses. The objectives of this paper are to review and determine the impact of the COVID-19 pandemic on the economy and organization's operation. Additionally, it also aims to identify action plans that support the recovery from the pandemic. This paper used a narrative literature review as a research methodology to gather timely and relevant resources, which draw insights and knowledge from the literature. The underlying factors of the COVID-19 pandemic, specifically, government measures, are causing the disruption and changes in the economic activity of every country and business. It was observed that the government measures, as a response to the pandemic, consequently resulted in the decline of businesses' financial performance through low consumer demands, buying power, and limited resources. For instance, limiting the outdoor movements and access to non-essentials, as government response, consequently resulted in the decline of businesses' sales profit and revenues. Some organizations, however, implemented crisis management protocols and policies to survive and recover from the COVID-19 pandemic. A Study about the businesses' performance during this pandemic identified models and constructs related to survivability and resilience as crisis management. This paper then summarized the information into a crisis management model that is seen to improve the performance and recovery of the businesses from the impact of the pandemic. Additionally, this paper also introduced a model of the COVID-19 impact that was identified in the organizations' experiences. These models can provide relevant information about the pandemic and initiate preparedness. Furthermore, contribute support to the businesses' crisis management initiatives to thrive and recover from the hostile business and financial environment brought by crises, such as this COVID-19 pandemic.

Keywords: *Information System, Financial Management Information System (FMIS), Financial Management, COVID-19, Crisis Management*

1. Introduction

On the 30th day of January 2020, the day COVID-19 has been declared a global pandemic (World Health Organization [WHO], 2020), which posed a great threat not only to the health of the people but also to the health of the economy. The virus targeted the immune system of people; however, the outlying factors of the pandemic targeted the economy. For the people, there were major lifestyle changes such as strict adherence to health measures and protocols. Whilst, for the businesses and the governments, it was the planning, preparation, and handling of resources. What affected and targeted the economy was the lockdown and quarantine protocols; however, these are necessary to control the spread of the virus. Everyone was required to limit outdoor activities to purchasing and accessing necessities, such as foods and medicines. As a result, the business operations related to leisure were temporarily halted.

There is no exact time or period as to when the pandemic will end. Hence, it is only necessary to always have an effective plan in reducing losses. Organizations and even the government should proactively assess risks and challenges from a financial and operational perspective. A Financial Management Information System (FMIS) supports the organizations' financial management processes such as planning, budgeting, and budget execution, which develops operational efficiency (The World Bank, 2021).

The impacts of the COVID-19 pandemic in the financial management information system of public and private organizations posed threats and challenges to the economy of the business, which organizations in every nation currently endure. Reviewing the impacts of the pandemic in various organizations can define knowledge that has a global point of view, including the losses caused by the crisis, and action plans devised to mitigate losses and recover from the COVID-19 pandemic.



2. Objectives

The objectives of the paper are to review and determine the impact of the COVID-19 pandemic on the economy and operation of private and public organizations; specifically to identify the factors and their impacts on the financial management of the organizations and to determine the crisis management plans and systems used to handle the adverse effects of the COVID-19 pandemic.

3. Materials and Methods

A literature review was utilized as a research methodology for this paper to gather timely and relevant resources. Literature reviews draw insights and knowledge from existing research and articles on a particular topic (Western Sydney University, n.d.), in this case, the pandemic and financial management. These reviews allow its readers to acquire an extensive understanding of the global pandemic implications towards financial management. According to Snyder (2019), literature reviews build a foundation for every type of research; the reviews are the basis for developing knowledge about a topic. Furthermore, reviewing online resources is an effective process for acquiring global knowledge and experiences without involving costs. This paper also followed a narrative approach to a literature review. A narrative approach in research studies the experiences felt by individuals and organizations (Gudmundsdottir, 2001, as cited in Moen, 2006).

The primary kinds of literature this paper reviewed are published research, case studies, and articles wherein financial management and the COVID-19 pandemic are the topic or issues. Furthermore, the literature came from databases such as ResearchGate, ScienceDirect, Sage Journals, and Research Square. Moreover, resources from news articles are also used as references for this study; these articles are sourced from The World Bank, WHO, and other legitimate and recognized organizations.

4. Literature Review

4.1 Factors and Impact

Research on the macroeconomic effect of the pandemic concluded that the lockdown protocols are killing the economy of businesses, not the COVID-19 virus (Coibion et al. 2020, as cited in, Brodeur et al., 2020; Rababah et al., 2020). Ashraf (2020) identified that government measures controlled the spike of COVID-19 case that created positive market returns; however, it also resulted in disturbance of economic activity.

According to Jonas (2003, as cited in Brodeur et al., 2020), the impact of the pandemic is caused by one; social distancing measures, that is, restricting the consumption of goods and services, two; direct costs such as medical bills, three; indirect costs such as loss of labor, and four; cascading effects on services. Furthermore, these statements coincide with Carlsson-Szlezak et al. (2020, as cited in Brodeur et al., 2020), who explains the three transmission channels of pandemic impacts towards financial management: direct impact, indirect impact, and supply-side disruptions. The direct impacts are caused by prolonged quarantine protocols that fixate consumers at their homes. On the other hand, the indirect impacts are plummeting house wealth. For instance, 81 million people have been dismissed from their jobs because of the COVID-19 such as the insufficient business' economy to remunerate employees (International Labour Organization [ILO], 2020). Households are living day-to-day only with their savings; thus, weakening buying power. Lastly, the supply factor impact is when productions of goods and services are decreased.

The research of Dabo Guan et al. (2020) on COVID-19 measures in the global supply chain suggested that the extension of lockdowns and restrictions, rather than impose it multiple times, is economically preferred. Notably, the authors stated that the inconveniences brought by the restrictions should be tolerated rather than allowing policymakers to restart the economy by lifting the restrictions. Moreover, the results of the Guan et al. paper also implied that countries' COVID-19 measures are made without the consideration of the global supply chain (p. 583).

In the European Union, it was anticipated that the gross domestic product (GDP) would drop 1.6 percent due to the low supply chain (Jonung & Roger, 2006, as cited in Brodeur et al., 2020). According to the Institute for Supply Chain Management (ISM) (as cited in Mykytyn, 2020), businesses that are related to China's supply chain have not established contingency plans to handle global supply chain disruption. The



shutdown of manufacturing companies in China resulted in a shortage and outage of materials (Mykytyn, 2020) and was considered as the initial cause of the disruption and affected industries such as metal, machinery, automotive, and chemicals (ILO, 2020, p. 2).

The study about COVID-19 and its impact on Chinese companies conducted by Rababah et al. (2020) identified a decline in yearly financial statements, which 2019 to 2013 financial statements were compared with the 2020 financial statements. Moreover, the study indicated that small and mid-size enterprises (SME) experienced heavier damages. In contrast, Alves et al. (2020) stated that small firms portrayed a flexible response to the COVID-19 pandemic due to the less complex administrative processes. Notably, smaller firms showed greater concern for the decline of demands and customers rather than financial constraints (Alves, 2020). Smaller businesses' only income and revenue sources are from sales, unlike larger companies that have investors and other ventures.

4.2 Crisis Management

Rababah et al. (2020) identified the actions that have been done to survive the disrupted commerce, both locally and globally. Businesses applied cost-cutting to protect resources, which included ceasing expansion and protection of funds. Additional precautionary measures to avoid uneconomical spending were laying off employees and halting new employee acquisition. These measures contributed to the 25 million jobs lost worldwide (Hess, 2020). Furthermore, the study found that the partnership of governments, banks, regulatory bodies, and central banks can tackle the adverse impacts of the COVID-19 pandemic. Some of the actions that can relieve the financial challenges are waved loans, tax rebates, and financial support.

As shown in Figure 1, the model is the summarized methods implemented by SMEs that are seen to improve the survivability of the business. The first crisis management category is the operational strategies that reform operational policies. Second is human resource management, which implements flexible HR policies. The third is product management while the fourth is a network or improving customer relations. Lastly, financial reforms through cost-cutting. Furthermore, the authors also proposed a resilience model. As shown in Figure 2, the resilience model consists of five constructs: customer relations, products, financial, dynamic learning, and equipment or hardware.

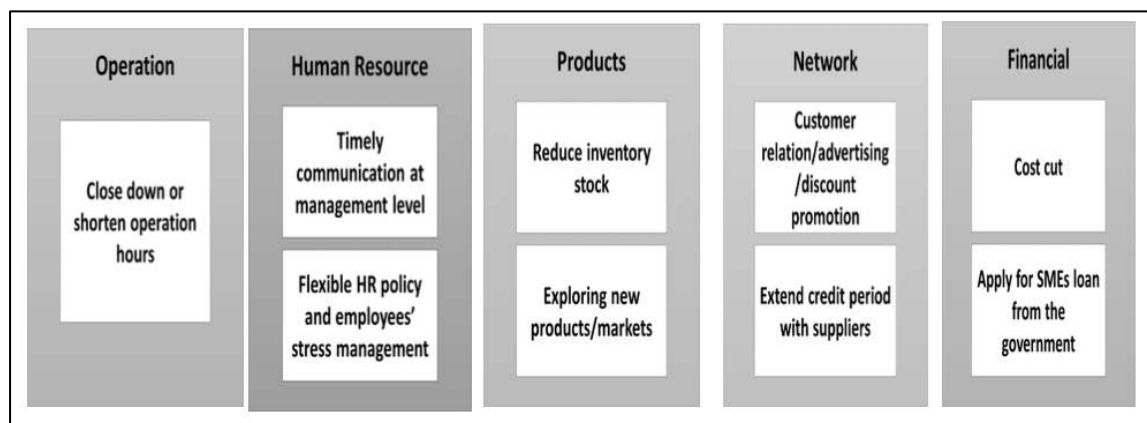


Figure 1 the survivability produced by Alves et al. in 2020 and is a summarized five-categorical model for surviving the pandemic found through SMEs in Macau, China



4.3 Crisis Management through Government Fiscal Policies

According to Rababah et al. (2020), the effects of the COVID-19 pandemic can only be countered through the preparation and formulation of health-related policies. Gurazada et al. (2020) wrote that based on past health crises such as SARS, Ebola, and Swine Flu, it is significant to enhance the accountability and transparency of public financial management (PFM) systems of government entities to mitigate corrupt activities and guarantee proper fund allocation. Furthermore, the implementation of a treasury single account (TSA) assures the flexible and accessible liquidation of contingency funds; these liquidated funds and assets are then used for the COVID-19 response. On the other hand, these FMIS expedites the procurement of materials for the response operations. A standard financial reporting system is crucial for generating timely financial reports for an informed decision.

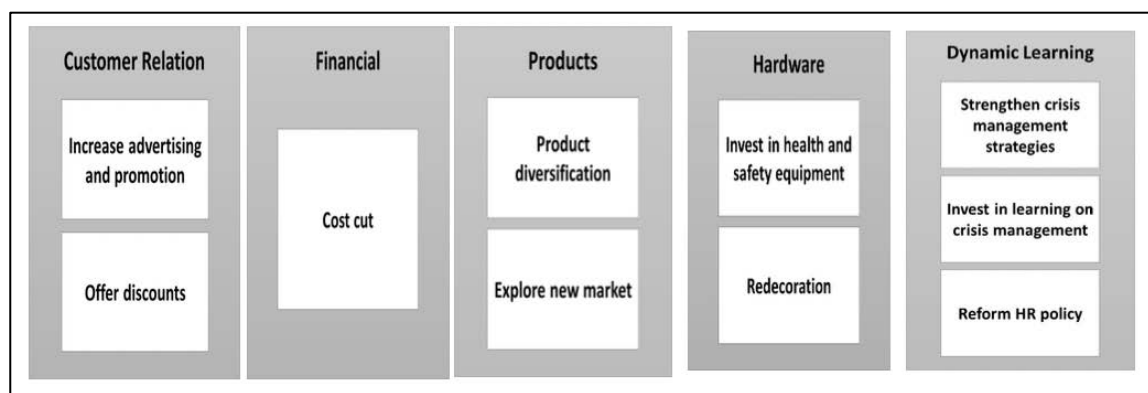


Figure 2 the resilience model proposed by Alves et al. in 2020 and is a five-construct model that was successfully adopted to recover from the pandemic.

South Korea established a task force, transparent actions, contact tracing with the technological application, and COVID-19 testing to counter the pandemic (Fleming, 2020, as cited in Park & Maher, 2020). These immediate actions resulted in decreased transmission and mortality rates. According to Johns Hopkins University (2020, as cited in Park & Maher, 2020), there are only 11,541 positive and 272 deaths over 51.2 million citizens. Furthermore, Park and Maher (2020) explained that fiscal policies are allotted for medical services, quarantine resources, unemployed individuals, and financial support for businesses.

Similarly, the United States of America has implemented measures to combat COVID-19 through fiscal packages (Park & Maher, 2020). The first package allotted a budget for health and medical resources and financial support for small businesses. Subsequently, the response policy support health and medical services for every household. Lastly, the country focused on unemployment issues, businesses, and a wider range of health and medical services.

4.4 Crisis Management through the use of Financial Management Information System

Marignani (2020) described that PFM systems, including FMIS, tackles upfront challenges of the COVID-19 pandemic: resource liquidation, proper cash disbursement, accounting, and reporting expenditures. The government is immediately responding to the threat of the COVID-19 pandemic through changing fiscal policies; however, the process can cause macroeconomic instability and misuse of funds. The author also stated that an efficient system is both a flexible and transparent solution to expedite resource movement and control.

Unpaid liabilities and debts past the due date are called arrears. The World Bank (2020) stated that from the pressure of the COVID-19 response, the governments are likely to build up arrears. Consequently, accumulated arrears are difficult to monitor and control because transactions were done outside the FMIS used. On the other hand, the World Bank also highlighted the consolidated financial statements from different levels including central and local governments, which provides a holistic aggregation and balances of



accounts, such as assets, liabilities, revenues, and expenses. The use of an Integrated FMIS (IFMIS) and other tools from information technology guarantees the financial information's timeliness and reliability. Moreover, the governments are encouraged to implement systems and procedures in financial statement consolidation.

Shah and Waterfield (2020) explained that without a standardized financial information system, information of the constraint and available resource is challenging to define. Identified health departments showed a struggle to redistribute resources to the COVID-19 response. Furthermore, the authors have categorized a Uniform Chart of Accounts (UCOA) as a standardized financial information system that is implemented by public health agencies in the US. Associated agencies can access financial data, where revenues and expenditures can be visualized and analyzed, then determine areas that need correction.

5. Results and Discussion

Government bodies of every nation implemented measures to prevent the spread of the COVID-19 virus; however, resulted in sacrificing the global economy. Lockdown protocol is one of the implemented measures to control virus transmission in local communities, creating negative and positive impacts on financial performance (Ashraf, 2020). The decrease in cases and mortality rates resulted in good market returns but limited consumer buying power and disturbed the economic and supply chain activity. On the other hand, the government entities also performed measures to improve the current state of the economy; and not only mitigate the COVID-19 pandemic. Park & Maher (2020) explained that South Korea and the United States' fiscal policies initially focused on funding medical services and implementing measures against the virus. Then, financial support to smaller businesses and individuals to cope with the adverse impacts of the COVID-19 pandemic.

Furthermore, the COVID-19 virus transmission in the workplace is also an issue the government bodies tackled. Businesses either laid-off employees or shut down operations, resulting in millions of job losses (ILO, 2020), decreased production, and inadequate manpower. This issue added to the disruption of the global commerce and supply chain. Rababah et al. (2020) found concrete evidence of declining financial statements. The author also found that SMEs experienced greater challenges compared to larger firms due to the fewer sources of income.

The author has created a four-construct diagram that shows the general impact of the COVID-19 pandemic on businesses and their financial performance, as shown in Figure 3. The businesses experience financial constraints because of decreased revenue and income that are also caused by the decline in demands and consumers' buying power. Subsequently, limited funds cause operational, that is, operating on a tight budget. Furthermore, due to financial constraints and government measures, the businesses lay off employees. Unfortunately, some resulted in shutting down operations because of revenue-expenditure imbalance. On the other hand, the organizational culture of the businesses also changes because of reforming work policies that are tailored to adapt to the COVID-19 pandemic. Lastly, the remnants of the COVID-19 pandemic will create an impact. However, it can be mitigated through proper crisis management that ensures quick recovery and survivability during the COVID-19 pandemic.

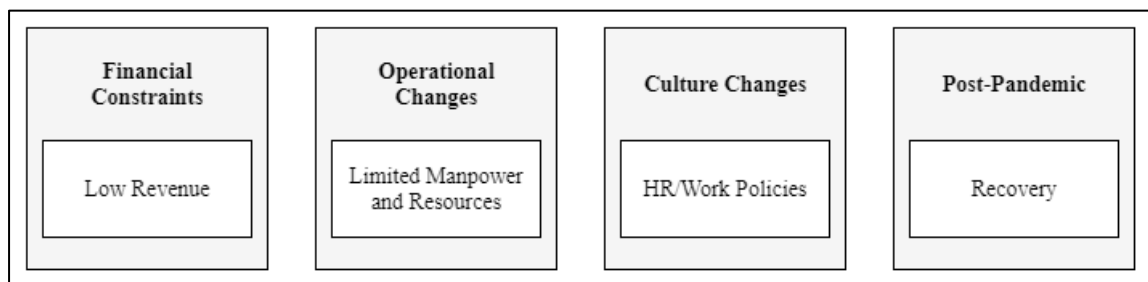


Figure 3 Impacts of the COVID-19 pandemic to businesses based on the reviewed literature



Alves et al. (2020) concluded that excellent crisis management resulted in significant recovery four months after the COVID-19 outbreak. The authors explained that smaller firms need to have adequate planning to recover from events such as the COVID-19 pandemic. Unlike larger firms, smaller firms have significantly lower resources and lack experience in managing crises, that is, SMEs are more susceptible to greater financial and operational damages caused by the COVID-19 pandemic and future outbreaks. Notably, Alves et al. (2020) introduced the survival strategy model and resilience model that are shown by Chinese firms. These models are mostly related to cost-cutting, improving customer relations, changing operational and HR policies, and diversifying products and services to better adapt to the COVID-19 pandemic.

As shown in Figure 4, the author has also created a five-construct diagram of crisis management actions analyzed from the reviewed literature. The financial construct ensures that the business resources are distributed properly because of low returns and limited funds. It also shows that the businesses should perform cost-cutting procedures to remove unnecessary expenditures and find alternatives for costly materials and equipment. To further ensure financial usage, reforming operational policies is significant. For instance, goods production must be reduced due to low market demands. Moreover, work and HR policies should also be reformed to adapt to the current situation, such as a remote work setup. Since there is a decrease in consumer purchasing, the businesses must improve customer networks and relations, allowing revenues and returns to increase. On the other hand, utilizing and implementing information technology would significantly improve the response to the COVID-19 pandemic impact. Financial systems such as an FMIS improves the control and monitoring of resources' movements. Furthermore, the system provides access to relevant and timely information that assists in formulating an informed decision to handle the impact of the pandemic. Lastly, government supports are seen to alleviate the heavy impact of the COVID-19 pandemic on business operations. Government support includes financial support in terms of financial packages and loans; however, support varies from country to country, hence, visualizing with discontinued lines.

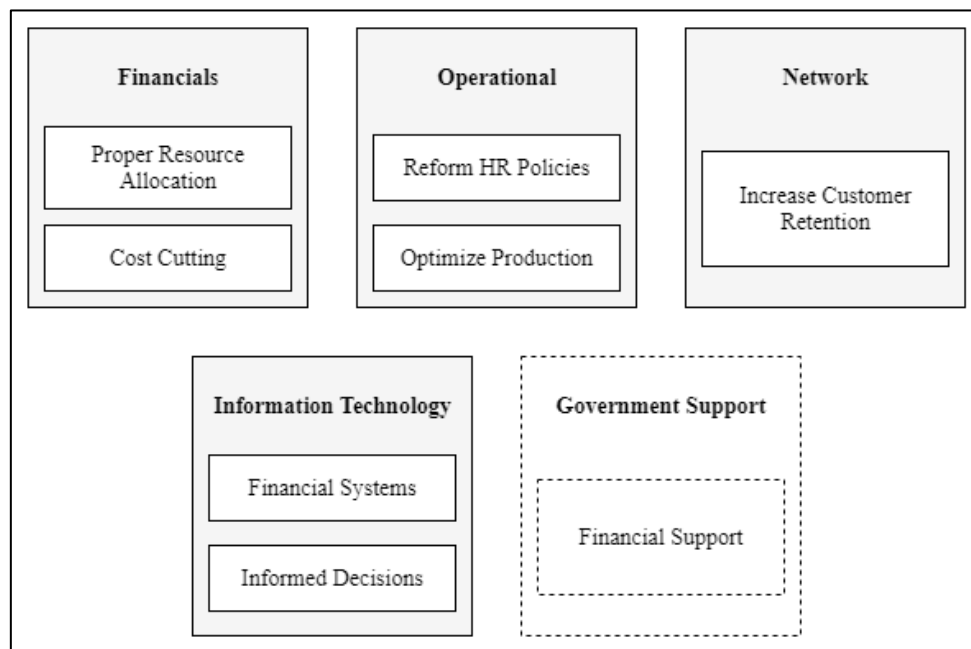


Figure 4 the crisis management five-construct diagram that was seen to allow businesses to survive and recover from the pandemic.

6. Conclusion

The COVID-19 virus only affects the health of the people. However, the underlying factors of the virus are causing the disruption and changes in the economic activity of every country and business. Limiting



the outdoor movements and access to non-essentials, such as leisure activities, caused by government measures as a response to the pandemic consequently resulted in the decline of businesses' financial performance. It has been found through comparative research of past financial statements with the 2020 financial statements. Moreover, the business operations have also been challenged in ways of limited and constrained expenditure to achieve fiscal balance during this crisis.

The end of the COVID-19 pandemic will leave critical damages but also significant learnings, especially to small and new businesses. The organizations would be able to apply these learnings to future financial crises, such as proper crisis management and financial management. There were resilience and survivability models identified from business experiences that were summarized into a model, such as sound fund management. These concepts can be applied to thrive in a hostile business and financial environment brought by crises such as this COVID-19 pandemic. Furthermore, proper financial management enables the businesses to operate with limited resources, such as manpower and funds.

The author suggests including additional literature that further defines and understands other factors that directly or indirectly affect financial management and performance, which allows the businesses to have additional knowledge about the COVID-19 pandemic impact in creating and implementing the COVID-19 response.

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