



**NEAR EAST UNIVERSITY  
INSTITUTE OF GRADUATE STUDIES  
DEPARTMENT OF BUSINESS ADMINISTRATION**

**THE EFFECTS OF COVID 19'S INDUCED CHALLENGES ON  
ORGANISATIONAL PERFORMANCE: A CASE STUDY OF INDUSTRIAL  
COMPANIES IN ZIMBABWE**

**MBA THESIS**

**LORRAINE MUKWAIRA**

**Nicosia**

**February, 2023**

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**LORRAINE MUKWAIRA**

**Supervisor  
Prof. Dr. Serife Eyupoglu**

**Nicosia**

**February, 2023**

### Approval

We certify that we have read the thesis submitted by Lorraine Mukwaira titled “**The Effects Of Covid 19’s Induced Challenges On Organisational Performance: A Case Study Of Industrial Companies In Zimbabwe**” and that in our combined opinion it is fully adequate, in scope and in quality, as a thesis for the degree of Masters in Business Administration (MBA).

Examining Committee	Name-Surname	Signature
Head of the Committee:	Assoc. Prof. Dr. Nesrin Menemenci	.....
Committee Member :	Dr. Laith Lashtoush	.....
Supervisor:	Prof. Dr. Serife Eyupoglu	.....


Approved by the Head of the Department

23.10.2023

.....  
Prof. Dr. Serife Eyupoglu  
Head of Department

Approved by the Institute of Graduate Studies

...../2023  
Prof. Dr. Kemal Hüsnü Can Başer  
Head of the Institute



## **Declaration**

I hereby declare that all information, documents, analysis and results in this thesis have been collected and presented according to the academic rules and ethical guidelines of the Institute of Graduate Studies, Near East University. I also declare that as required by these rules and conduct, I have fully cited and referenced information and data that are not original to this study.

Lorraine Mukwaira

13 /March/2023

## **Dedication**

*To my Family and Friends*

## **Acknowledgements**

My appreciation goes to my supervisor Prof. Dr. Serife Eyupoglu. Her guidance through my project has been of great help. I would also like to thank my husband and my family and friends for their continued support. Lastly, I would like to thank God for allowing me to reach this final stage of my master's degree, I am utterly grateful.

Lorraine Mukwaira

## **Abstract**

### **The Effects Of Covid 19's Induced Challenges On Organisational Performance: A Case Study Of Industrial Companies In Zimbabwe**

**Lorraine Mukwaira**

**Near East University, Department of Business Administration**

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The study examines the effects of Covid 19's induced challenges on the performance of industrial companies. Along such lines, the study ascertains managing directors' perspectives on the effects of operational, financial, and supply chain and logistical challenges induced by the pandemic on the performance of industrial companies in Zimbabwe. Subsequently, a multivariate analysis approach was applied in analysing 421 managing directors' responses drawn from 9 industrial sectors vital to the Zimbabwean economy. With the aid of SPSS version 24, the findings uncovered that the performance levels of some industrial companies in Zimbabwe were positively catapulted by operational, financial, and supply chain and logistical challenges induced by the pandemic. Of notable contribution, are the revealed insights denoting that the effects of the pandemic were significantly different across companies of different sizes operating in different industries. Apart from statistically validating the effects of supply chain and logistical problems on industrial companies' performance, the study contributes to a better understanding of how innovative production and supply methods can be used to alleviate problems undermining performance.

**Keywords:** Covid-19, financial challenges, operational challenges, organisational performance, supply chain and logistical challenges.

## Özet

### **Covid 19'un Neden Olduđu Zorlukların Örgütsel Performans Üzerindeki Etkileri: Zimbabwe'deki Sanayi Şirketlerinin Örnek Olay İncelemesi**

**Lorraine Mukwaira**

**Near East University, İşletme Bölümü**

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Çalışma, Covid 19'un neden olduğu zorlukların sanayi şirketlerinin performansı üzerindeki etkilerini incelemektedir. Bu doğrultuda çalışma, genel müdürlerin operasyonel, finansal ve tedarik zincirinin etkileri ve pandeminin neden olduğu lojistik zorlukların Zimbabwe'deki sanayi şirketlerinin performansı üzerindeki etkileri hakkındaki bakış açılarını tespit etmektedir. Daha sonra, Zimbabwe ekonomisi için hayati önem taşıyan 9 sanayi sektöründen alınan 421 genel müdürün yanıtlarını analiz ederken çok değişkenli bir analiz yaklaşımı uygulandı. SPSS versiyon 24'ün yardımıyla, bulgular Zimbabwe'deki bazı sanayi şirketlerinin performans seviyelerinin, pandeminin neden olduğu operasyonel, finansal ve tedarik zinciri ve lojistik zorluklar nedeniyle olumlu bir şekilde fırlatıldığını ortaya koydu. Dikkate değer katkılardan biri, pandeminin etkilerinin farklı sektörlerde faaliyet gösteren farklı büyüklükteki şirketler arasında önemli ölçüde farklı olduğunu gösteren ortaya çıkan içgörülerdir. Çalışma, tedarik zinciri ve lojistik sorunların sanayi şirketlerinin performansı üzerindeki etkilerini istatistiksel olarak doğrulamanın yanı sıra, yenilikçi üretim ve tedarik yöntemlerinin performansı baltalayan sorunları hafifletmek için nasıl kullanılabileceğinin daha iyi anlaşılmasına katkıda bulunmaktadır.

**Anahtar Kelimeler:** Covid-19, finansal zorluklar, operasyonel zorluklar, organizasyonel performans, tedarik zinciri ve lojistik zorluklar.



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### Abbreviations

<b>FC:</b>	Financial Challenges
<b>FS:</b>	Firm Size
<b>IS:</b>	Industrial Sector
<b>OC:</b>	Operational Challenges
<b>RBV:</b>	Resource Based View
<b>SCLC:</b>	Supply Chain and Logistical Challenges
<b>SSA:</b>	Social System Approach
<b>VRIN:</b>	Valuable Rare Imperfect imitability Non-substitutability

## CHAPTER I

### Introduction

#### Background of the Study

It is widely apparent that Covid 19 has been racking havoc worldwide and its effects are widely traceable across various industries like education (Sintema, 2020), agriculture (Barichello, 2020) telecommunications (Urazbaeva, Voytenkov & Groznykh, 2020), tourism sector and hotel businesses (Bayat, 2020). Besides, both large (Bennedsen, Larsen, Schmutte & Scur, 2020) and small-scale (Bartik et al., 2020) businesses have been and still remain vulnerable to Covid 19's effects, especially when concerns are growing over the effects of the new Covid-19 variant, Omicron. It remains an exciting inquiry that the prevalence of such issues will continue to undermine not only the growth and development of businesses but also social and economic initiatives. However, effective solutions capable of effectively diagnosing such issues must be centred on a firm-level analysis as firms are a vital engine required in promoting, fostering and boosting social and economic initiatives (Ackermann, 2012; Acs, 1996; Davidsson & Delmar, 2017; Neffke, Hartog, Boschma & Henning, 2018).

Meanwhile, several African countries have remained victims of Covid 19 and are still making huge strides to overturn their social and economic misfortunes. Among such nations, is Zimbabwe, which has registered a total of 142 000 Covid 19 cases and witnessed 4 713 individuals succumbing to Covid 19 deaths (CSSEGIS and Data, 2021). This makes it difficult for the Africa nation to rely on business activities as a source and an engine of social and economic development, especially when such effects are deemed as having substantial effects on organisational performance (Ahmed et al., 2020; Kniffin et al., 2021; Papadopoulos, Baltas & Balta, 2020). Several studies reckon that organisational performance is instrumental in addressing various problems such as poverty, unemployment, inflation, political instability, and social inequality etc., (Aulenbacher, Décieux & Riegraf, 2018; Matar, Al-Rdaydeh, Al-Shannag & Odeh, 2018; Sadiq, Othman & Keong, 2019; Wilczyńska, Batorski & Torrent-Sellens, 2020). This carries huge empirical weight concerning the interaction between Covid 19 and organisational performance. It is in this regard that substantial

novel ideas can be established by further examining the interaction between Covid 19 and organisational performance.

The major problem surrounding the aforementioned issues is that research on Covid 19's effects on firm-specific variables like organisational performance is still developing. Furthermore, related studies analysing the effects of Covid 19 on organisational performance are still yet to be extended to African countries like Zimbabwe as studies are widely concentrated on countries like Australia (Brueckner & Vespignani, 2021) and China (Zou, Hou & Li, 2020). Additionally, studies are still yet to acknowledge that firm size and the industrial sector can moderate the effects of Covid 19 on organisational performance (Apedo-Amah et al., 2020; Zou, Hou & Li, 2020). Besides, some companies benefited from Covid 19 and thereby witnessed substantial performance improvements, while others suffered huge losses. All these distinct effects of Covid 19 on organisational performance are still yet to be explored further organisational performance and hence, this study seeks to address these issues in detail. The study's contributions, novelty and originality will be embedded in these efforts.

### **Research Problem**

Lately, the pandemic has been dominating headlines and one of the supposed disastrous effects posed by the pandemic is a reduction in organisational performance (Laurea, 2021; Wanasida, Berbnato & Sudibio 2021; Zou, Huo & Li, 2021)). But given that the pandemic has distinct avenues through which its impact on the performance of companies has been observed, not much has been done to determine and isolate the impact of such factors. Though there are nascent ideas about the possible ways through which the pandemic induces challenges to affect companies (Tu, Li & Wang, 2021), such ideas are still nascent, especially concerning the manner of operational challenges, financial challenges, and supply chain and logistical challenges induced by the pandemic affect organisational performance. In that regard, the contributions of this study will be embedded in the formulation of a multivariate model that captures the effects of operational, financial, and supply chain and logistical challenges induced by the pandemic. Besides, it is to the researcher's knowledge that there are no studies incorporating how company size and the industrial sector influence the manner through which the pandemic undermines organisational performance. As observed by Gerald,

Obianuju and Chukwunonso (2020), different companies of different sizes operating in different industries were affected differently by the pandemic. However, there are limited studies validating such observations, especially in the context of industrial companies in Zimbabwe as other African countries like Nigeria have been the subject matter of research (Gerald, Obianuju & Chukwunonso, 2020). Besides, existing studies tend to exclude managing directors' perspectives on the Covid-19-organisational performance debate (Laurea, 2021; Wanasida, Berbnato & Sudibio 2021; Zou, Huo & Li, 2021). Consequently, this demands efforts to examine the effects of covid 19's induced challenges on organisational performance.

### **Purpose of the study**

The study aims to examine the effects of Covid 19's induced challenges on the performance of industrial companies. Specifically, the study examines managing directors' perspectives on the effects of operational, financial, and supply chain and logistical challenges induced by the pandemic on the performance of industrial companies in Zimbabwe. Additionally, attention will be devoted to analysing and determining if Covid 19 has different effects on the performance of firms of distinct sizes operating in completely different industries.

### **Research Questions**

It is in light of the aforementioned objectives that the current study seeks to answer the following formulated research inquiries.

- 1) What are managing directors' opinions of industrial managers regarding the significance of operational, financial, and supply chain and logistical effects induced by the pandemic on organisational performance?
- 2) Are Covid 19's induced challenges significantly widespread across industrial sectors?
- 3) Are firms of different sizes impacted the same by Covid 19's induced effects?



## **Significance of the Study**

From the researcher's perspective, studies of this nature have been limited to other countries like Nigeria. Hence, by drawing insights from other African countries like Zimbabwe, the study expands empirical knowledge essential in broadening understanding of the effects of the pandemic across firms, industries and countries. Besides, the study was conducted at a time when numerous companies succumbed to the disastrous effects of the pandemic amid rising unemployment, falling income per capita and rising poverty levels. Hence, the ideas portrayed in this study are vital in shedding light on some of the most practical measures required by companies to cushion themselves from the pandemic's harmful effects. Hence, the study contributes to the scientific and practical development of knowledge essential in managing companies during and after structural imbalances to sustain their long-term performance.

## **Definition of Terms**

- **Covid 19** is an infectious disease caused by the SARS-CoV-2 virus (World Health Organisation, n.d).
- **Industrial companies** are legal entities that employ people and use their financial and material resources to carry out business activities in the industry of the national economy (Webster Dictionary, n.d).
- **Covid 19 induced challenges** refer to any Covid 19 related obstacle that undermines industrial companies' operational capacity and performance objectives and goals (Researcher, 2021).
- **Organisational performance** involves analyzing a company's performance against its objectives and goals (Webster's Dictionary, n.d).

## **Organization of the Study**

The design of the exploration is made aggregating to accomplish the targets of the examination and to check the examination questions, the review is coordinated into four sections. The design of the review is as per the following:

- Chapter One: Introduction
- Chapter Two: Literature review

- Chapter Three: Research methodology.
- Chapter Four: Results and discussion.
- Chapter Five: Conclusions and policy recommendations.

## **CHAPTER II**

### **Literature Review**

#### **Introduction**

Following an outline of the study objective which is to examine industrial companies' managers' perspectives on the effects of Covid 19's induced challenges on organisational performance, this chapter was structured into six sections catering for the theoretical underpinnings, the concept and perspectives of organisational performance, determinants of organisational performance, empirical literature review, hypothesis development and conceptual framework. The goal of this chapter is to lay a foundation upon which the study's theoretical and empirical gaps, and contributions are deduced for further examination of the established results.

#### **Theoretical Literature Review: The Resource-Based View and the Social System Approach**

Given the fact that material and financial resources together with employee services or labour play a crucial role in influencing organisational performance, the study applied the Resource Based View (RBV) and the Social System Approach (SSA) as a foundational step to modelling the effects of Covid-19's induced challenges on organisational performance. Besides, contemporary studies validate that the pandemic has restricted the effective utilisation of both material and financial resources as well as human labour in achieving the desired outcomes (Laurea, 2021; Wanasida, Berbnato & Sudibio 2021; Zou, Huo & Li, 2021). However, it is to the researcher's knowledge that not much ground has been covered to decompose and examine the effects of challenges triggered by the pandemic with regard to how they influence organisational performance. Amid the discovery of such empirical gaps, the next section of the study is dedicated to the examination of the RBV and SSA, and the ascertainment of avenues through which organisational performance may be impaired by the pandemic.

### **The resource-based view approach to organisational performance**

As per RBV postulations, there are firm-specific views about why organisations fail or succeed in a market place (Nson & Wiklund, 2018). Drawing from its proponent's propositions Dicksen (1996), resources are non-imitable and sustainable, rare and valuable and thus, making it practically challenging for businesses to sustain their competitive edge over their counterparts essential for enhancing performance. In that regard, the RBV infers that complexities induced by the pandemic will have widespread effects undermining both an organisation's competitive position and ability to register superior performance. Hence, the managerial implications of such propositions entail that managers should enact measures at curbing how the pandemic affects the manner and level in which they utilise their resources. Additionally, the other managerial implications point to the deployment of strategies aimed at safeguarding the organisation's competitive advantage in the market. In overall, the implications of the RBV in this context and how it explains variations in organisational performance commands harnessing non-imitable and sustainable, rare and valuable resources with the goal of improving the organisation's competitive advantage and ability to post superior performance.

Moving further, prior studies on the RBV opine that organisations are a collection of organisational resources, human resources and physical resources (Amit & Shoemaker; Barney, 1991). As such, inferences are drawn at this stage to denote that industrial companies' operational capacity and overall performance revolve around the effective use of their organisational resources, human resources and physical resources. Furthermore, contemporary business situations demand organisations to sustain their competitive advantage following an increase in the complexity of the business situation and a surge in competition (Rehman, Mohammed & Ayoup, 2019). Hence, the inability to deploy counter strategies capable of curbing the adverse effects of business complexities. Most importantly, the strategies called for are those involving the reorganisation of resources. This aligns with Madhani's (2009) suggestion that limitations posed by non-imitable and sustainable, rare and valuable resources are best dealt with by changing their productive combinations. Drawing from events observed during the pandemic, it can be seen that the pandemic affected the manner and level at which organisations utilised given combinations of

their productive reasons (Laurea, 2021; Wanasida, Berbnato & Sudibio 2021; Zou, Huo & Li, 2021).

Meanwhile, based on Wong and Karia's (2010) study findings, VRIN criteria can be deployed in cases where organisations are confronted with the obligation to boost their competitive advantage and sustainable performance. The VRIN criterion is based on the following components;

**Valuable (V):** According to Madhani (2009), valuable resources are those resources that confer strategic value to the organisation. In other words, valuable resources are crucial and play an instrumental role in either eliminating market threats or exploiting market opportunities. There are widespread implications of such notions, especially when related to the pandemic. According to Madhani (2009), the pandemic exposed several companies to intense competition and threats as companies were forced to scale down operations, and confronted with problems of falling sales units and revenue. Consequently, the pressure imposed on companies to eliminate threats and exploit opportunities created by the pandemic have been relatively and demanding additional ways companies can effectively and efficiently access and utilise valuable resources. As a result, it can be postulated at this juncture that both the access and utilisation of valuable resources in companies are the cornerstones on which companies can either avert or minimise challenges induced by the pandemic. Alternatively, another line of analysis calls for the disposal of resources that do not enhance the firm's value (eliminate threats and exploit opportunities created).

**Rare (R):** According to Rehman, Mohammed and Ayouf (2019), resources must be rare for them to confer a competitive edge on companies. That is, valuable resources are those that are difficult to find among the company's current and potential competitors. Hence, by implication, the rare feature of resources calls for companies to tap into innovativeness so as to acquire a unique resource or way of either producing goods or providing services to customers compared to their competitors. This can be supported by arguments levelled by Armstrong and Shimizu (2007) and Madhani (2009) denoting that innovativeness is the key through which companies garner the necessary effectiveness and efficiency essential in amassing competitive advantage. The applicability of such deductions is of notable implications, especially at a timer when the pandemic has hindered physical production and operational methods and

activities. Consequently, this has either hindered companies' ability to exploit market opportunities and counter competitive threats. In other instances, Chatterjee, Rana and Dwivedi's (2021) ideas on research and development are the key to which companies can find and/or develop rare resources needed in boosting competitive advantage and sustaining profitability in both the short and long terms during and after the pandemic. Therefore, it can also be inferred at this stage that an abundant supply or availability of resources on the market reduces the potential capacity of any company to have unique resources it can utilise to gain a competitive edge over its counterparts during the pandemic. Alternatively, it can be said that an abundant supply or availability of resources on the market does not significantly contribute towards improving the design and execution of a unique business strategy in comparison with other competitors during and after the pandemic or when dealing with Covid-19 induced challenges.

**Imperfect imitability (I):** Imperfect imitability as defined by Madhani (2009), implies that it is not feasible to imitate or copy the resources. By implication, imperfect imitability entails that there are bottlenecks preventing companies from imitating or copying the resources. In relation to the pandemic, bottlenecks for imperfect imitability observed before, during and/or after the pandemic comprises among others ambiguous relationship between capability and complexity of resources or competitive advantage and difficulties in acquiring the resource. Thus, bottlenecks serve as an essential challenge which when overcome, companies can achieve a competitive position in the market leading to improved performance. As has been the case with the pandemic, innovation became the key companies were tapping into to achieve a competitive edge and boost performance as counter measures to avoiding structural, market, industry and corporate bottlenecks imposed by the pandemic. As a result, companies can enhance their performance using resources as a basis for sustaining competitive advantage only if other companies are incapable of acquiring such resources.

**Non-substitutability (N):** This is another essential criterion the RBV contends is essential for gaining and sustaining a competitive edge over its counterparts. As such, Madhani (2009) asserts that the non-substitutability of resources implies that resources cannot be substituted by another alternative resource. Amid a surge in the diverse nature of adverse effects of the pandemic such as rising operational costs (Laurea, 2021), a decline in operational capacity (Tu, Li & Wang, 2021) and both sales units and revenue (Zou, Huo & Li, 2021), by having non-substitutable resources,

companies are well posed to curb the negative effects of the pandemic undermining the performance of their organisations. Supporting such a notion, Lockett and Thompson (2009) outlined that it is practically impossible for competitors to achieve the same performance by replacing resources with other alternative resources. Besides, the proponent of the RBV, Barney (1986), asserts that valuable resources enable companies to do things and behave in a manner that causes them to post high margins, record low costs and high sales, or in other ways add financial value to the firm. Additionally, in subsequent years, Barney (1991) also emphasized that valuable resources are those that cause companies to conceive strategies that improve their effectiveness and efficiency (Madhani, 2009).

In overall, the RBV can be said to be vital for helping company managers to understand why competences are regarded as the companies' highly vital assets and, at the same time, to appreciate how those assets can be utilised to enhance business performance. Moreover, the RBV holds that competences, organizational culture and past experiences attributes are critical for the success of the firm. Evidently, these propositions are vital for dealing with Covid-19 induced challenges and should be deployed in dealing with matters of Covid-19-related challenges undermining organisational performance. In that regard, the RBV was incorporated into this study as a theoretical platform for analysing the effects of Covid 19's induced challenges on organisational performance.

Nonetheless, there were numerous external circumstances triggered by the pandemic that severely undermined companies' performance. However, they are not captured by relatively similar studies (Laurea, 2021; Wanasida, Berbnato & Sudibio 2021; Zou, Huo & Li, 2021). Hence, the incorporation of the social system approach to organisational performance in this study was deemed essential in enhancing understanding of examining industrial companies' managers' perspectives about the effects of Covid-19's induced challenges on organisational performance. Hence, the next section explores further propositions laid forth by the social system approach to organisational performance.

### **The social system approach to organisational performance**

The Social System Approach (SSP) defines performance as the degree to which companies as social systems with certain resources can achieve stated goals (Robbins,

2005). An extended definition by Demeke and Tao (2020) considers that sound performance is when the organisation's activities do not compromise a company's resources and the means by which such resources are utilised as well as not straining its employees. Integrating these two distinct definitions broadens the definition of performance beyond financial means to include non-financial indicators as well as the organisational ends (outcomes) and means. Relating further the notion of organisational performance to the effects of the pandemic, affecting performance is thus, the channels through which the pandemic uses both financial, and non-financial (employees, organisational means and ends) to inflict effects on companies. Hence, by implication at this stage, the SSA entails that Covid-19 induced challenges will act to affect organisational means and ends. Consequently, companies are tasked with a mandate of ensuring that they minimise or avoid Covid-19 induced challenges from affecting the organisation's means and ends. In line with Lupton's (1977) findings, a high-performing organisation is one that is characterised by low or absent labour unrest, costs and turnover rates, and high satisfaction and productivity levels (Demeke & Tao, 2020). Subsequent observations by Katz (1978) include organisational effectiveness and efficiency (ratio of output to inputs), (Demeke & Tao, 2020). This entails that the SSA demands that adjustments to organisational means and ends incorporate organisational effectiveness and efficiency. As a result, the SSA serves as a panacea to addressing problems and challenges posed by the pandemic. In other words, the SSA is a solution-orientated approach to maximising organisational performance by making changes to the organisation.

### **The Concept and Perspectives Of Organizational Performance Measurement**

The concept of organizational performance is typically addressed in management research such that its definition and structure are seldom explicitly articulated. Commencing with earlier establishments denoting that there are three broad classifications of organisational performance namely; overall performance, financial performance, and operational performance (Hult, 2008), quests to develop consensus measures of organisational performance have always been a subject of discussion. Numerous studies are much inclined toward financial performance and consider it to be a notable and appropriate measure of organisational performance



(Demeke Tao, 2020; Spencer, Joiner & Salmon, 2009; Taouab & Issor, 2019). Besides, long-standing debates have always been the norm, especially concerning varying interests and perspectives between accountants and managers and accountants about organizational performance. For instance, Demeke and Tao (2020) contend that accountants confine their interests to the organisation's financial performance, while managers' interests are centred on how to improve current and future organizational performance. Kaplan (1984), on the other hand, used a combination of operational measures and historical accounting perspectives to develop what is termed the "balanced Scorecard" approach to organizational performance. These diverging ideas are the preliminary foundation upon which the organisational performance debate has been widely concentrated.

Drawing further to the examination of the accounting literature perspective on organisational performance, it emerged that there have been concerns about the measures of organisational performance in as much as financial statements are concerned (Bititci et al., 2012). Demeke and Tao (2020) assert that the introduction of various accounting standards and procedures has been having a huge toll on measures of organisational performance. The continuous development and improvement of accounting standards are viewed as being instrumental in ensuring that companies' financial performance is meaningful and comparable across organizations, industries and over time (Demeke & Tao, 2020; Neely, 2007). However, the accounting perspective on organisational performance has been criticised on several grounds for failing to incorporate future organizational opportunities (Neely, 2007; Peterson, Gijssbers & Wilks, 2003). Additionally, other studies assert that its multi-dimensional and multi-constituency approach to performance is was undermines its effectiveness (Kaplan & Norton, 2005; Neely, 2007). Nonetheless, both the multi-dimensional and multi-constituency features of the approach to performance are vital for providing details required by regulatory bodies, creditors and equity providers about the company's financial position and status (Demeke & Tao, 2020).

The other notable approach that offers rich insights into the concept of organizational performance is the Balanced Scorecard Perspective (BSP). According to Kaplan and Norton (2005), prior accounting traditional financial performance measures are presumed to have been effective in yielding the desired performance details because of their capacity to measure and report historical transactions. In line

with such observations, Neely (2007) argued that the BSP to organisational performance does not consider the significance of investments in future opportunities. This entails that organisational performance is a function of a company's historical and future transactions and activities. Hence, the effects of the Covid-19's induced effects on the performance of the companies can be assessed based on the manner in which they influence the companies' historical and future transactions and activities. Further, studies supporting the role and contributions of the BSP cite that it asserts that overall organizational performance is a function of both operational and measures. Another line of studies opines that the BSP does not restrict its focus to the financial aspects of the company but rather encompasses learning and growth, organizational effectiveness and operational measures of customer orientation as the main drivers of the company's future financial performance (Kaplan & Norton, 2005; Neely, 2007; Peterson, Gijbbers & Wilks, 2003). However, challenges such as the situation-specific and utilisation of unique operational measures to each organization are some of the vital grounds on which the demerits of the BSP are centred (Peterson, Gijbbers & Wilks, 2003). Demeke and Tao (2020) highlight that the BSP is that it utilizes operational measures that are unique to each organization, while practical for implementation by organization insiders. As a result, this undermines the utility of researchers. Along similar lines, Peterson, Gijbbers and Wilks (2003) opine that the BSP is not situation generic but is rather situation-specific. Therefore, the ability to generalise companies is only possible on the condition that the balanced scorecard variables are applied to the entire population of interest. Another line of studies asserts that a balanced scorecard is most effective when designed to meet specific circumstances unique to each organization, but this is generally impractical in a research application (Neely, 2007; Peterson, Gijbbers & Wilks, 2003) and thus, restricting its perspectives to what can be termed as a multidisciplinary perspective of organizational performance.

Perspectives about organisational performance can also be analysed in the context of the strategic management perspective. The strategic management perspective is based on the notion that firms strive to strategically organise their resources and activities to achieve superior organization performance (Crook, Bratton & Street, 2006). Thus, strategic management literature dwells on the conceptualizations of dimensions that should be measured and organizational perspectives about the strategic determinants of organisational performance (Neely,

2007; Peterson, Gijbers & Wilks, 2003). Foremost, addressing concerns about the strategic dimensions organisations should measure, Demeke and Tao (2020) hinted that (1) shareholder return as reflected by economic value-added and total shareholder return, (2) product-market performance as measured by indicators such as market share and sales, and (3) financial performance measured using indicators like return on investment, return on assets, and profits are the three notable indicators of firm outcomes.

The microeconomic perspective can also be thrust into the organisational performance debate to shed additional light on possible measures companies can utilise to boost their performance during the pandemic. According to Barney (2002), companies will invest in a project or business activity when the rate of return is adequate to compensate for the assumed risks. This entails that challenges posed by the pandemic can trigger severe risks capable of undermining companies' ability to reap profitable gains from their investments. Hence, the adopting of risk-averse strategies can plunge companies into low-performance levels and an inflow of passive and main income declines as observed during the surge of the pandemic (Laurea, 2021; Wanasida, Berbnato & Sudibio, 2021; Zou, Huo & Li, 2021). These insights underscore the importance of enacting risk management strategies to ease the adverse effects of the pandemic.

Lastly, another stream of studies introduced into the organisational performance debate another perspective of survival (Demeke & Tao, 2020; ). This follows Drucker's (1954) historical classification of eight distinct performance dimensions namely; (1) manager performance and development, (2) public responsibility, (3) adequate profitability to compensate for risks taken, (4) employee attitude and performance, (5) financial and physical resources, (6) market standing, (7) productivity and (8) innovation. To which, empirical studies document that management is about achieving set organisational goals and detailing strategic courses of action that will allow organisations to effectively and efficiently achieve such goals (Demeke & Tao, 2020; Neely, 2007; Lee, 2021). Just like the BSP, Drucker's perspective is multidimensional and multi-constituency. The other aspect portrayed that can be integrated into the organizational performance debate is the achievement of both stakeholder goals and organizational goals as has been historically hinted at by scholars such as Freeman (1984). This entails that organizations must effectively

utilize their relationships with stakeholders to effectively achieve both stakeholder goals and organizational goals. This carries huge relevancy in contemporary business situations following the pandemic's adverse effects on companies' ability to effectively achieve both stakeholder goals and organizational goals (see Ahmed et al., 2020; Kniffin et al., 2021; Papadopoulos, Baltas & Balta, 2020).

### **Determinants of Organisational Performance**

One of the notable ways of achieving an effective way of analysing the avenues through which the pandemic affected the performance of companies is through the examination of the determinants of organisational performance. Additionally, such determinants can play an instrumental role in devising courses of action through which companies can curb the pandemic's adverse effects and sustain their performance. In that regard, this section of the study examines the determinants of organisational performance during the Covid-19 pandemic.

In a study by Hoque (2004), it is documented that company size determines the nature of profits a company can reap from its operations. As such, a positive interaction is assumed between company size and organisational performance. Meanwhile, Suggestions about firm size serving vital purposes of cushioning firms from adverse industrial, seasonal or economic effects are evident in several academic studies (Alekseev et al., 2020; Dörr, Murmann & Licht, 2021; Haneberg, 2021; Sedlacek & Sterk, 2020). It is suggested that large companies possess huge financial capital reserves and human resources necessary for countering economic, country-specific and industry-specific effects (Song, Yeon & Lee, 2021). Furthermore, while it is highly evident that Covid 19's effects on organisational performance are undesirable and bound to undermine all economic sectors (Alekseev et al., 2020; Dörr, Murmann & Licht, 2021; Song, Yeon & Lee, 2021), little has been done to explore ways through which Covid 19 and organisational performance are related. Zou, Huo and Li (2021) noted that Covid 19's effects are bound to be transmitted through specific channels that affect organisational performance. However, such has not been the case, especially in situations where Covid 19's effects were related to organisational performance (Haneberg, 2021; Tu, Li & Wang, 2021; Wanasida, et al., 2021). In most cases, the effects of structural events like Covid 19 have been noted to be either moderated or

mediated by specific variables (Humphries, Neilson & Ulysea, 2020). Haneberg (2021) contends that the effects of any structural event are bound to vary between industries. That is, some industries can benefit from one industry's demise as has been the case with internet companies (Sedlacek & Sterk, 2020) and social media platforms (Song, Yeon & Lee, 2021). It becomes imperative to note that the moderating effects of an industrial sector can influence the connection between Covid 19 and organisational performance, but are still yet to be duly acknowledged in academic studies. Consequently, it becomes an exciting inquiry to explore factors capable of influencing the connection linking Covid 19 and organisational performance.

Adding to the contributions of company size to profitability, Hyvönen (2007) documents that sales units recorded over a given period of time chiefly determine whether the company will maximise profits, make normal profits or incur losses. Therefore, this inevitably portrays that companies can potentially suffer losses in the advent that their sales decline significantly. This has been the case with situations observed during the pandemic as customers' ability to purchase products was constricted due to health and safety protocols imposed during the pandemic. Richard et al. (2009) noted that sales units fell drastically as companies forming ancillary services or products produced by other companies cut down their demand and purchase of such products and services thereby triggering a contagion effect.

Company size is also associated with the various ancillary activities and factors contributing to improved firm performance. For instance, Lee (2021) contends that large companies are well posed to engage in research and development, which is the key to tapping into innovative, productive, efficient and efficient ways of either producing products or providing services. Additionally, Taouab and Issor (2019) hint that research and development open avenues for companies to develop new products and services for servicing existing markets. It is from such innovative attempts that unique products confer companies with a unique competitive edge over their counterparts as suggested by the RBV (Nson & Wiklund, 2018; Rehman, Mohammed & Ayoup, 2019). In addition, recruitment, training and development aspects of human resources management also play crucial in enhancing firm performance. In that notion, Anwar and Abdullah (2021) denote that large companies are well posed to recruit, train and develop highly skilled and qualified individuals to aid them to achieve their objectives.

Capital adequacy also reflects the ability of the company to raise the required capital funds essential in funding operations and investing in profitable projects. As such, complexities in raising capital have been known to be a prominent feature among smaller companies as opposed to large companies (Bititci et al., 2012; Spencer, Joiner & Salmon, 2009). With the pandemic threatening traditional business methods, pressure was imposed on companies to innovate their operations, production methods and service delivery (Kniffin et al., 2021; Papadopoulos, Baltas & Balta, 2020). Taouab and Issor (2019) noted that companies with the necessary capital resources were at an advantage in tapping into the benefits of innovation to attain a competitive edge over their counterparts and sustained their performance. Such abilities were relatively higher among large companies and hence, their ability to post normal profits if not, then relatively high profits during the pandemic were observable (Kniffin et al., 2021; Papadopoulos, Baltas & Balta, 2020).

Other factors such as economies of scale and productive capacity are essential and play an important role in boosting performance. Studies have hinted that companies enjoying economies of scale are able to minimise production costs and enjoy the benefits of mass production (Hoque, 2004; Lee, 2021). In other words, falling average costs and rising output per unit of labour position the company to observe huge positive changes in performance.

In line with this section's analysis, it, therefore, becomes crucial to note that the key elements that influenced the ability of companies to withstand and guard against the effects of the pandemic revolve around the size of the companies, availability of capital funds, innovativeness, research and development and another ancillary factor such as government assistance. As such, this can be the platform on which companies can structure their operations and production methods to sustain their performance in the long term. However, these strategies are still yet to be explored from a broader perspective as studies relating to Covid-19 are contemporary and still demand further examination. Therefore, the next section of this study places focus on exploring further studies related to challenges posed by the pandemic and their effects on organisational performance.

## **Empirical Literature Review: Documenting Covid-19-Induced Challenges**

The process of documenting the effects covid-19 induced challenges is still ongoing as studies highlight various challenges and avenues through which such challenges are affecting companies. Foremost, with restrictions on physical movements and the imposition of social distancing, companies were at a great disadvantage as the pandemic hindered production and operational activities (Kniffin et al., 2021; Papadopoulos, Baltas & Balta, 2020). Ahmed et al. (2020) hinted that major slumps in company productivity levels were observed worldwide as economies were stuck in a doldrum of a series of lockdowns that were imposed one after the other. In another instance, Alekseev et al. (2020) document that there was a considerable decline in the operational capacity of notable companies that were highly labour-intensive closing operations. With operational capacity and productivity serving as crucial elements or determinants of organisational performance, it was inevitable that the pandemic adversely undermined organisational performance worldwide. Hence, the demand for both academic studies and practical measures capable of addressing the adverse effects imposed by the pandemic on organisational performance has been more highly demanded than ever before.

From a broader and more specific angle of analysis, the Covid-19 pandemic led to a decline in sales units and revenue as consumer demand and the ability of companies to meet such demand was restricted. According to Papadopoulos, Baltas and Balta (2020), Covid-19 significantly disrupted supply chains but there are fewer examinations analysing the implications of supply chain disruptions on organisational performance. It is in this context that the study integrates the effects of supply chain disruptions triggered by the pandemic on organisational performance. Nonetheless, the existence of bottlenecks caused by supply chain disruptions can inevitably hinder organisational performance. This can be reinforced by Tangthong's (2020) ideas hinting that the inability of companies to either ease or curb the effects of Covid-19 cripples organisational performance (Laurea, 2021; Wanasida, Berbnato & Sudibio, 2021; Zou, Huo & Li, 2021) and can further undermine the attainment of socio-economic objectives such as those linked to MDGs and SDGs (Obi et al., 2020).

Odusanya, Yinusa and Ilo (2018) in their study aimed at analysing the determinants of firm profitability in Nigeria lists financial risk, interest rate, inflation

rate, and short-term leverage as the key performance influencers. As such, their dynamic panel models reveal negative interactive effects spanning from financial risk, interest rate, inflation rate, and short-term leverage to performance. However, what transpired during the pandemic revealed that are numerous distinct factors well posed to influence organisational performance. For instance, Tangthong's (2020) listed the unvalidated effects of operational challenges as an obstacle to improving organisational performance. Others cited similar challenges but pointed out that a key number of challenges posed by the pandemic were financially-related (Laurea, 2021; Wanasida, Berbnato & Sudibio, 2021; Zou, Huo & Li, 2021). This creates major empirical voids that demand further examinations as to which of the factors significantly posed serious consequences on the operational performance of companies. Amid such concerns, the study's contributions are engraved.

Demeke and Tao (2020) in their examination of the concept and perspectives of organizational performance, highlighted that there are multi-disciplinary and multi-dimensional approaches to the examination of organisational performance. with various approaches such as the stakeholders, accounting and macroeconomic approaches to organisational performance being included in the long-standing organisational performance debate, the severity of concerns undermining consensus has been of notable concern. This is vital as such approaches were still yet to be tested in relation to the effects posed by the pandemic. Hence, attempts to validate such notions call for the execution of this study, especially when operational, financial and supply chain and logistical challenges posed by the pandemic are involved.

Tangthong's (2020) emerging examinations on the effect of covid-19 on the organizational performance of employees in Thailand, list financial, operational and supply chain-related challenges as possible avenues linked to the observed decline and/or improved performance among companies during the pandemic. Though Tangthong supports the significance of these major challenges, there was no empirical evidence to reinforce his arguments. Amid such observations, this study also builds on Tangthong's ideologies in establishing and testing the effects of financial, operational and supply chain-induced challenges on the performance of companies. This will be integrated with initiatives aimed at assessing whether such effects are significantly different among companies of various sizes operating in distinct industries.



Rababah et al. (2020) conducted a study that analyses the effects of the Covid-19 pandemic on the financial performance of Chinese-listed companies. The adverse effects of the pandemic on financial performance were not refuted. As a result, it further becomes apparent that the pandemic triggers a series of financial challenges that can cripple a company's financial status and position.

Shen et al. (2020) explored the impact of the Covid-19 pandemic on firm performance. Though their findings reinforce the notion that the pandemic adversely impacts performance (Ahmed et al., 2020; Apedo-Amah et al., 2020; Zou, Hou & Li, 2020), attempts to further ascertain the exact channels (challenges) through which such effects are transmitted on companies have been lacking. In addition, this contrasts Tangthong's ideologies establishing the pandemic undermines performance through financial, operational and supply chain-induced challenges (Tangthong, 2020). Hence, is a cause for conducting this study to validate these notions.

In a study by Alekseev (2022), dwelling on owners, managers, and employees' views about the effects of Covid-19 on US small businesses, both financial and operational challenges were not excluded from the list of identified complexities triggered by the pandemic. This reinforces the notion and attempts by this study to extend these challenges and analyse their effects on the performance of industrial companies whose performance is of huge interest for social and economic purposes.

In their study, Beck and Hensher (2020) disclosed that challenges posed by the Covid-19 pandemic can be eased by easing restrictions. This denotes the external drivers of the environmental context companies can operate to achieve their goals. Other studies outline that bailout packages and tax cuts be availed to companies to ease challenges undermining their operational capacity and performance (Kniffin et al., 2021; Papadopoulos, Baltas & Balta, 2020). These strategies can have compounded effects on companies when they are structured to meet specific companies of different sizes drawn from various and distinct industries. It is on such propositions that this study builds its propositions about the influence of firm size and industry type on the interplay between the induced Covid-19 challenges and organisational performance.

Song, Yeon and Lee's (2021) attempt to explore the impact of the COVID-19 pandemic on the USA's restaurant industry. Interestingly, the implications of Covid-19 on operational activities were deemed as catastrophic citing that they hinder sales

units and revenue inflows as operational capacity is further restricted due to movement restrictions and other related health and safety measures. It is upon this study, that this study extends further discussions about operational capacity changes triggered by the pandemic and ascertains the degree of their effects on the performance of industrial companies.

Nguyen et al. (2020) broadened further Covid-19 discussions to online book shopping in Vietnam. In contrast, Song, Yeon and Lee (2021), discovered that innovative changes made to switch to online book shopping were instrumental in boosting the performance of booksellers compared to their counterparts using traditional selling methods. This, therefore, implies that industrial companies must tap into innovation and research to establish ways of sustaining and/or boosting their operational capacity to enhance their performance. Since these observations contribute towards improving both operational activities and financial performance, it can thus, be contended that industrial companies can ease operational and financial challenges triggered by the pandemic by innovating their operations (service delivery). This can be supported by earlier study establishments by Papadopoulos, Baltas, and Balta (2020) depicting the use of digital technologies by small and medium enterprises during Covid-19 as instrumental for improving operational and financial performance on both theoretical and practical levels. This also aligns with Sintema's (2020) study findings highlighting that similar practices are vital in improving the performance of students during the pandemic. Again, this highlights the operational and financial aspects linked to the pandemic and how they can affect or be used to influence the performance of industrial companies.

In an attempt to highlight the moderating role of social support, Tu, Li and Wang (2021) downplayed possible avenues companies can tap into to maximise their performance during the pandemic. The established ideas denoted that COVID-19-induced layoff, survivors' Covid-19-related stress and performance in the hospitality industry are significantly tied to other organisational activities and outcomes such as work-family conflict. In support of these arguments, Alekseev et al. (2020) opine that major supply chain disruptions were linked to work-family conflicts and high employee stress levels. Nonetheless, the existence of supply chain disruptions triggered by the pandemic has a significant toll on a company's sales units and revenue, but this has not been broadened and linked to changes in organisational performance

triggered by the pandemic (Kniffin et al., 2021; Papadopoulos, Baltas & Balta, 2020). Therefore, this study integrates supply chain disruptions into analysing the effects of Covid-19 induced effects on the performance of industrial companies. Research by Obi et al. (2020) justifies the execution of this study in the sense that it directs to the socio-economic impact of covid-19 on the economic activities of selected states in Nigeria. Hence, the inability or ineffective ability to render companies with solutions capable of either easing or curbing the effects of Covid-19's induced challenges has severe implications on the attainment of socio-economic objectives such as those linked to MDGs and SDGs.

The relationship between firm size and organisational performance is surrounded by several controversies with some studies suggesting that it is positive (Asterious & Panos, 2019; Brancaccio, Garbellini & Giammetti, 2018), while others verified it to be negative (Cicea, Popa, Marinescu & Cătălina 2019; Rehman, Mohamed & Ayoup, 2019). This justifies the study's objective to explore the interaction between firm size and organisational performance, especially in the context of Zimbabwean industrial companies. Studies examining such matters are widely drawn to developed countries like Europe (Hatem, 2014), Australia (Hameed et al., 2018), and Romania (Lazăr, 2016). Hence, this exhibits the study's originality and significance in relating such matters to contemporary situations based on country-specific variables.

While it is sound to consider that studies on Covid 19 and its related effects on organisational performance are still ongoing, several academic imbalances are still yet to be addressed. For instance, it is widely documented that Covid 19 undermines organisational performance (Cicea, Popa, Marinescu & Ștefan, 2019; Derbali & Jamel, 2018; Rehman, Mohamed & Ayoup, 2019). However, contemporary observations made by the researcher revealed that certain industries like the telecommunications industry have been growing significantly as individuals and companies resort to online activities. References can be made with regard to online learning (Adedoyin & Soykan, 2020; Irawan, Dwisona & Lestari, 2020), online shopping (Ali, 2020; Ngyuyen et al., 2020), work from home (Engle, Stomme & Zhou, 2020; Yang et al., 2020), etc. It is in the midst of such circumstances that such industries started posting huge profit levels and amassing significant market shares from poorly performing and technologically insensitive industries. Therefore, claims that Covid 19 undermines organisational

performance can be dismissed on such a basis. Meanwhile, this study's novel contributions are centred on its attempts to ascertain whether the effects of the pandemic were significantly different among companies of different sizes drawn from various industries.

Meanwhile, the study's novelty is based on integrated efforts combining the identified three distinct forms of challenges posed by the pandemic on companies' performance. With challenges like supply disruption (Udofia et al., 2021), share price fluctuations (Urazbaeva, Voytenkov & Groznykh, 2020), and business capabilities (Wanasida et al., 2021) being linked to the pandemic, efforts to build a multivariate model that captures the combined effects of these variables are still nascent and at infancy stages. Other studies cite that innovative changes introduced by companies to curb the adverse effects of the pandemic narrowed the channels through which the pandemic influenced firm performance (Yang et al., 2020). As a result, the study narrows the induced Covid-19 challenges to financial, operational and supply chain and logistical challenges. These challenges will be examined bearing in mind the interplay of the firm and industry-type factors influencing such interactive effects. Consequently, the next section strives to establish possible connections linking the induced effects with organisational performance and formulate the necessary hypotheses.

### **Hypothesis Development**

The effects of Covid 19 are significantly being documented in academic studies (Alekseev et al., 2020; Dörr, Murmann & Licht, 2021; Humphries, Neilson & Ulysea, 2020; Song, Yeon & Lee, 2021). Much remains to be explored as organisational issues continue to emerge while others have remained academically unexplored. This assumes a huge theoretical and empirical significance when matters involving the effects of Covid 19's induced challenges on organisational performance are brought into the picture. It remains an exciting query to explore such issues, notably when matters involving the little empirical coverage of industrial companies in Zimbabwe are concerned. It is in light of these observations that this present study strives to ascertain connections linking Covid 19 with organisational performance.

### **The relationship between Covid-19's induced challenges and organisational performance**

Empirical studies documenting the effects of Covid 19 on organisational performance thrive. For example, scholars such as Gerald, Obianuju and Chukwunonso (2020), and Tu, Li and Wang (2021) maintained that Covid 19 undermines organizational performance, especially when firms have not enacted sound strategies to curb Covid 19 induced challenges hindering their operational activities and levels. Covid 19 has also been found to adversely affect organisational performance (Laurea, 2021; Wanasida, Berbnato & Sudibio 2021; Zou, Huo & Li, 2021). However, some studies have contested the effects of Covid 19 on organisational performance. While some scholars have documented low insignificant effects of Covid 19 on organisational performance (see Apedo-amah et al., 2020; Bloom, Fletcher & Yeh, 2021), others have noted significant adverse effects of Covid 19 on organisational performance (Alonso et al., 2020; Fitriasaki, 2020 2003). However, suggestions were made that Covid 19's effects on organisational performance are most likely to vary between firms (Udofia et al., 2021).

Of paramount importance to the examination of the Covid-19-organisational performance debate, are unvalidated propositions denoting that the pandemic poses adverse changes in organisational performance through financial, operational and supply chain-induced challenges (Tangthong, 2020). It is on this platform that this study builds its novel contributions achievable through the formulation of a multivariate model to capture the effects of financial, operational and supply chain-induced challenges on organisational performance. Based on this discussion, it will be hypothesized that:

- **Hypothesis 1:** Covid-19's induced operational challenges have a significant relationship with the performance of industrial companies.
- **Hypothesis 2:** Covid-19's induced financial challenges have a significant relationship with the performance of industrial companies.
- **Hypothesis 3:** Covid-19's induced supply chain and logistical challenges have a significant relationship with the performance of industrial companies.

### **The significance of the pandemic among different companies**

The effects of structural events like Covid 19 are undebatable as evidenced by several academic propositions highlighting that they undermine corporate indicators like firm size (Alekseev et al., 2020; Dörr, Murmann & Licht, 2021; Groenewegen, Hardeman & Stam, 2021). Nevertheless, the validity of such observations is subjective as various factors are often held constant. Most importantly, economic conditions like economic and financial stability, financial and economic development and inflation are bound to influence such observations. More so, social and political instabilities are considered as having significant influences on the interaction between firm size and organisational performance (Humphries, Neilson & Ulyssea, 2020; Sedlacek & Sterk, 2020). Meanwhile, a growing number of empirical suggestions demonstrate that there is a significant interaction between firm size and organisational performance (Haneberg, 2021; Song, Yeon & Lee, 2021), and it is in line with their propositions that the following hypothesis will be formulated:

- **Hypothesis 4:** The overall effects of Covid 19 induced challenges were significantly different among companies of different sizes.

### **The significance of the pandemic across industries**

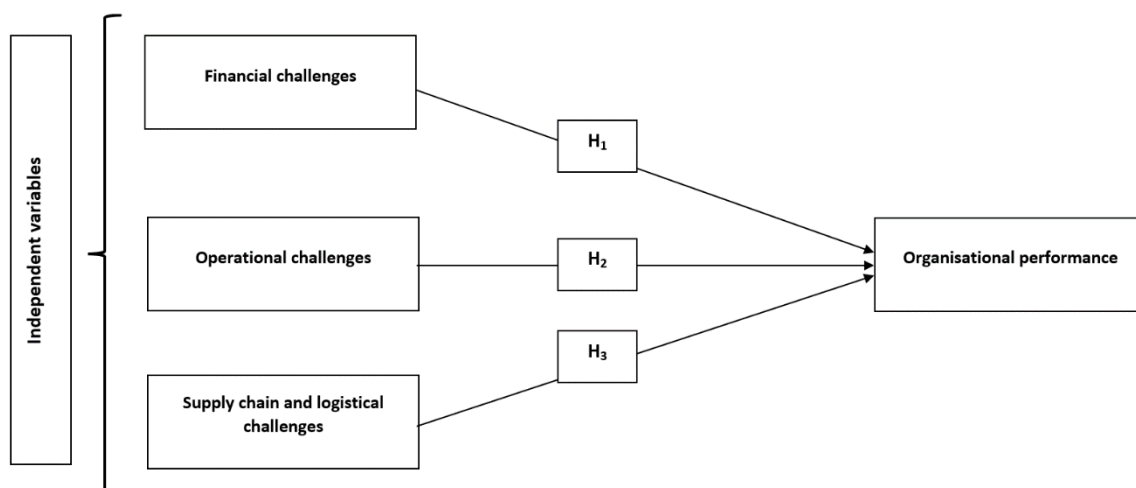
Certain industries are considered to be labour or capital-intensive and highly concentrated in terms of operational activities (Cicea, Popa, Marinescu & Cătălina 2019). Besides, there are other features that separate one industry from the other and these often extend to include technology, products and services involved (Derbali & Jamel, 2018). These distinct features are documented as having a significant influence on various industries and related companies operating under each distinct industry (Rehman, Mohamed & Ayoup, 2019). However, it is to the researcher's knowledge that such implications were still yet to be analysed in the context of Covid 19. Nevertheless, it is academically sound to infer that certain industries are more immune to Covid 19's effects compared to others. The validity of such a notion is significantly evident in previous studies that demonstrated similar influences concerning other forms of structural events like drought (Brancaccio, Garbellini & Giammetti, 2018), financial crisis (Asterious & Panos, 2019), great depression (Kehoe, Ruhl & Sternberg, 2018), housing and marketing bubbles (Mazza & Quattrone, 2017), oil price crash (Wen et al., 2019), etc. thus, ideas laid forth in this study will be academically and practically guided by the idea that certain industries benefited at the expense of others

amid the Covid 19 pandemic. As a result, the following hypothesis will be used to test the validity of such a notion with regard to industrial companies in Zimbabwe:

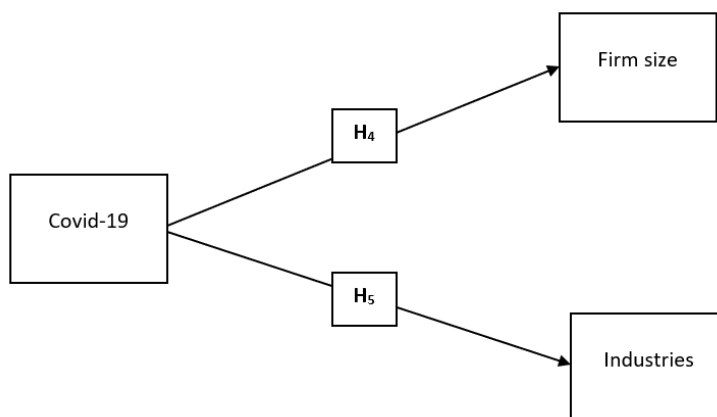
- **Hypothesis 5:** The overall effects of Covid 19 induced challenges were significantly different across industries.

### Conceptual framework

The present study will enhance related literature by exploring empirical voids and challenges concerning the interaction between Covid 19 and organisational performance. As such, inferences will be made using hypotheses that Covid 19's effects on organisational performance are bound to differ concerning the type of industry and size of the companies in question.



**Figure 1.** Main conceptual model



**Figure 2.** Sub conceptual model

Thus, the influence of Covid 19's induced challenges, industrial sector and firm size on organisational performance are delineated by arrows eventually pointing to organisational performance as shown in Figure 1. As a result, this study's goal will be to test this model in answering questions about the effects of Covid 19's induced challenges on organisational performance by making exemplary studies of industrial companies in Zimbabwe. The second model, Figure 2 serves to validate notions regarding whether companies of different sizes as well as different industries were affected differently by the pandemic. Thus, the next section offers insights into the proposed methodological procedures to be utilised in answering the suggested inquiries.



## CHAPTER III

### Methodology

#### Introduction

This chapter sheds insights into the analytical procedures undertaken in examining the effects of Covid 19's induced challenges on organisational performance. The subsequently reported results are based on quantitative methodological approaches applied to industrial companies in Zimbabwe. The researcher dwells on the effects of Covid 19's induced challenges on organisational performance in Zimbabwe as a country because of rising challenges linked to the performance of industrial companies such as employment, economic growth, inflation and falling standards of living. For instance, Macro Trends (2022) reports that Zimbabwe's Gross Domestic Product (GDP) fell drastically to -6.25% in 2020 from -6.14% in 2019. As a result, the primary aim of this study is significantly connected to strategies capable of being used to harness industrial sector performance to address these key issues. Moreover, studies tackling the effects of Covid 19's induced challenges on the performance of Zimbabwe's industrial companies are limited and are concentrated in countries such as the USA (Alekseev et al., 2022), Australia (Beck & Hensher, 2020), Nigeria (Obi et al., 2020) and Thailand (Tangthong, 2020). Furthermore, by dwelling on industrial companies, the study was able to deduce original and novel industry-specific ideas as analysis is often restricted to firm-specific elements (Alekseev et al., 2022; Obi et al., 2020; Tangthong, 2020). Such attempts led to a solid understanding of some of the key drivers of performance in industrial companies, with special regard to Southern African countries.

Nonetheless, this chapter dwells on the applied research approach, sampling procedures, data collection tools, and ethical considerations to aid in answering the following formulated research inquiries;

1. What are managing directors' opinions of industrial managers regarding the significance of operational, financial, and supply chain and logistical effects induced by the pandemic on organisational performance?
2. Are Covid 19's induced challenges significantly widespread across industrial sectors?

### 3. Are firms of different sizes impacted the same by Covid 19's induced effects?

It is in line with the aforementioned inquiries that the study adopted a quantitative research approach so as to answer the established inquiries and fill the related empirical voids. Such an approach was also vital for enriching the existing study's empirical contributions. Besides, accompanying studies validate the adoption of quantitative research methods for reasons linked to analysis with clarity (Allwood, 2012), more accuracy and reliability (Porte, 2010), and deriving valuable insights and vital facts from purely numerical data (Sukamolson, 2007). Hence, the core of this study is centred on the application of statistical methods and tools to establish connections linking Covid-19 induced challenges with firm size, and industry type and assessing their effects on organisational performance.

#### **Research Procedures**

450 questionnaires were distributed and collected by hand to managing directors of companies selected from 9 distinct industries in Zimbabwe vis a vis manufacturing, mining, health care, energy, telecommunications, education, food and agriculture, construction, and transport industries. The respective companies were randomly selected to ensure that each company has an equal chance of being selected (Bougie & Sekaran, 2019). The collected information was coded into Microsoft Excel to aid the application of robust data analysis programs notably SPSS 25. Consequently, statistical methods comprising descriptive statistics, correlation coefficient tests, model diagnostics tests, reliability tests and regression analysis were applied. This was pivotal for answering the proposed research inquiries.

#### **Population and Sampling Procedures**

In economics and business, certain industrial sectors are considered to be of high esteemed value and contribute towards boosting social and economic development (Arndt, 2015; Ayandibu & Houghton, 2017; Ball & Pratt, 2018; Peretto, 2015; Sharipov, 2020). It is in line with such observations that specific nine (9) industries were selected for carrying out further examinations concerning how Covid 19's induced challenges have been affecting their performance vis a vis

manufacturing, mining, health care, energy, telecommunications, education, food and agriculture, construction, and transport industries. Besides, the decision to examine these industries is in line with contemporary studies highlighting the significance and magnitude of Covid 19's effects in these industries (Barichello, 2020; Bayat, 2020; Bian et al., 2021; Sintema, 2020; Urazbaeva, Voytenkov & Groznykh, 2020).

Given that the study is industry-specific in nature, the focus was based on collecting information from managing directors of industrial companies in Zimbabwe. With such in mind, only lower-level, middle level and top-level managers were considered. The selection process involved the application of a convenience sampling approach in determining the study population and sample size. Convenience sampling refers to a research method of collecting samples from the population that is closer to the researcher (Stratton, 2021). The importance of applying such sampling in this study was further justified by supporting evidence contending that convenience sampling provides qualitative information, is easy to use, is a cheap method of sampling, and provides results quickly (Sedgwick, 2013; Stratton, 2021). The minimum sample size was calculated based on the formula below:

$$\text{Sample size} = \frac{z^2 \sigma^2}{e^2} \dots\dots\dots (1).$$

Where z represents the confidence level of 95% or 1.96,  $\sigma = 0.5$  and the margin of error is denoted by  $e = 0.05$  and this results in a sample minimum size of 384.

The above formula was applied because of its ability to yield a highly reliable sample size estimate. Furthermore, this enhanced clarity about the exact number of companies to be sampled as no exact statistics are available to point to the actual number of registered industrial companies operating in Zimbabwe. Moreover, Longenecker et al. (2013) pinpoints that managing directors are tasked with a mandate of making overall decisions regarding the performance of the company. Thus, by implications decisions about courses of action required in easing the adverse effects of the pandemic together with strategies aimed at taking advantage of opportunities created by the pandemic are predominantly made by managing directors. Hence, the decision is to focus on managing directors only. In most cases, including employees, especially with a population size of 20 000 in industrial populations yielded a

relatively lower sample size of 384 employees (Reddy et al., 2006), which is similar to this study's established sample size.

Table 1.

*Sample size selection*

No.	Industrial sector	Number of distributed questionnaires	Number of collected questionnaires	Response rate (%)
1	Manufacturing	50	50	11.11
2	Mining	50	47	10.44
3	Health care	50	50	11.11
4	Energy	50	34	7.56
5	Telecommunications	50	44	9.78
6	Education	50	50	11.11
7	Food and agriculture	50	46	10.22
8	Construction	50	50	11.11
9	Transport	50	50	11.11
	<b>Total</b>	<b>450</b>	<b>421</b>	<b>93.55 %</b>

Nevertheless, the sample was increased to 450 so as to enhance the reliability of the data. Thus, the sample size was composed of 450 companies selected from 9 different industrial sectors based in the city of Harare, Zimbabwe as can be seen in Table 1. Thus, an equal number of 50 questionnaires were randomly distributed to industrial companies per each of the identified 9 industrial sectors in Harare, Zimbabwe so that each company had an equal chance of being selected (Beins, 2017). Table 1 shows that 421 questionnaires were successfully collected equating to a response rate of 93.55%. The responses were coded for further analysis using SPSS version 24.

### **Data Collection Tools**

The data that was used in this study to elicit information from industrial companies concerning the effects of Covid 19's induced challenges on organisational performance was collected using a questionnaire. A focus group of 5 managing directors was used to test the designed questionnaire to gather the desired insights before administering the final questionnaires to the respective companies' managing directors. The results of the focus were significantly satisfactory and reliability values

of 81.2% and 82.4% were observed concerning the variables Covid-19 and organisational performance.

One of the key limitations that undermined this study is the lack of related studies about the effects of Covid 19's induced challenges on organisational performance. This further limited the availability of data collection tools necessary for collecting the required information from employees. Nonetheless, this created an avenue for developing novel and original ideas instrumental for the development of future studies. Thus, apart from the nascent ideas about data collections tools on Covid-19 and organisational performance, expert advice provided by the academic supervisor together with the reviewed empirical ideas by Ahmed et al. (2020) Apedo-Amah et al. (2020), Dai et al. (2021) and Zou, Hou and Li (2020), were used in constructing Covid 19 variable elements. The variable was further decomposed into 3 dimensions of Covid-19 challenges namely Operational Challenges, Financial Challenges, and Supply Chain and Logistical Challenges (Dai et al., 2021). The Covid 19 variable was composed of fourteen (14) variable elements that were measured using a 5-point Likert scale with values 1 to 5 corresponding from strongly disagree to strongly agree.

The variable organisational performance variable was designed using related instruments made available by Ahmed et al. (2020) Apedo-Amah et al. (2020) and Zou, Hou and Li (2020). The variable was composed of nineteen (19) variable elements that were measured using a 5-point Likert scale with values 1 to 5 corresponding from strongly disagree to strongly agree. Meanwhile, related studies used sales revenue growth to measure organisational performance (Ahmed et al., 2020; Apedo-Amah et al., 2020). This study built on ideas provided by Ahmed and others, and; Apedo-Amah and others by integrating employee, corporate social responsibility and environmental aspects of organisational performance in developing a robust variable capable of effectively measuring the companies' organisational performance.

The questionnaire was amended to ensure that it remains highly valid and reliable in addressing the area of concern. A five-point Likert scale was used to measure the Covid 19 and organisational performance variable items. Covid 19 variable was composed of fourteen (14) variable elements while the organisational

performance variable was composed of nineteen (19) variable elements that were measured using a 5-point Likert scale with values 1 to 5 corresponding from strongly disagree to strongly agree.

The entire data collection process was conducted within a space of three months from the 1<sup>st</sup> of June 2022 to the 16<sup>th</sup> of August 2022. One week was accorded to the companies' respondent managing directors to complete the questionnaires before they were collected back.

### **Data Analysis**

According to the literature, no comprehensive work has been done to build an integrated multivariate model that analyses the combined effects of Covid 19, firm size, and industrial sector on organisational performance around the world (Alekseev et al., 2022; Beck & Hensher, 2020; Obi et al., 2020; Tangthong, 2020). Thus, a multivariate regression model was used in this study because it played a significant role in investigating the structural relationships between Covid 19, firm size, industrial sector, and organisational performance (Beale et al., 2010; Kleinbaum et al., 2013). Besides, a multivariate regression model's use in this study was justified by its potency to estimate numerous interrelated dependents in one analysis (Beale et al., 2010; Kleinbaum et al., 2013). SPSS version 24 was used to aid with the data analysis process.

A novel and original concept shown in Figure 1 was used in examining the effects of Covid 19's induced challenges on organisational performance. The model exhibits that organisational performance (OP) is a function of Covid-19 (COV-19). Given that Covid-19 induced challenges in the form of Operational Challenges (OC), Financial Challenges (FC), and Supply Chain and Logistical Challenges (SCLC), the Covid-19 variable was broken down into these three dimensions so as to capture and test their influence on organisational performance. As a result, OC, FC and SCLC were integrated to produce Expression 2 as follows;

$$OP = F[OC; FC; SCLC] \dots\dots\dots (2).$$

Expression 2 played a key role in modelling a multivariate model used in estimating a regression model essential for examining the effects of Covid 19's

induced challenges on organisational performance. Therefore, expression 2 was further developed to build a multivariate regression model composed of parameters  $\beta_1$  to  $\beta_3$ , an error term  $\mu$  and a constant  $\alpha$  resulting in Expression 3.

$$OP = \alpha + \beta_1 OC + \beta_2 FC + \beta_3 SCLC + \mu \dots\dots\dots (3).$$

Hence, the key study conclusions and suggestions were derived from the modelled regression analysis model shown by Expression 4. More so, the under-listed formulated hypotheses listed as follows were tested;

- **H<sub>1</sub>:** Covid-19's induced operational challenges have significant adverse effects on the performance of industrial companies.
- **H<sub>2</sub>:** Covid-19's induced financial challenges have significant adverse effects on the performance of industrial companies.
- **H<sub>3</sub>:** Covid-19's induced supply chain and logistical challenges have significant adverse effects on the performance of industrial companies.
- **H<sub>4</sub>:** The overall effects of Covid 19 induced challenges were significantly different among companies of different sizes.
- **H<sub>5</sub>:** The overall effects of Covid 19 induced challenges were significantly different across industries.

### **Validity and Reliability Test Methods**

According to Bougie and Sekaran (2019), it is vital to determine the validity and reliability of both the applied research tool and data analysis methods so as to provide reliable and effective suggestions. Such suggestions are instrumental for strategic decision-making and policy formulation purposes. By the same token, both the questionnaire and collected data were subjected to a series of validity and reliability examinations. Preliminary validity tests carried out encompassed facial validity tests done by the academic supervisor ascertaining aspects like double-barreled questions, clarity, errors etc. The academic supervisor's suggestions were incorporated into developing an understandable questionnaire that was highly effective in amassing a huge error-free response rate.

Firstly, factor analysis was conducted as part of the validity tests to determine which of the Covid-19 and organisational performance variables were related (Bolstic

et al., 2000). Under such cases, only variables with factor loadings of at least 60% were selected and considered related and this is higher than the 0.50 limit proposed by other studies (Aftanorhan, 2013).

Secondly, Cronbach's alpha test was utilised in assessing the reliability of the four model variables Covid 19, firm size, industrial sector and organisational performance. The computed Cronbach's alpha results were compared with alpha values established by related studies with a careful consideration that only values exceeding 70% are reliable (Sürücü & Maslakçı, 2020). This entails that the selected variables will possess high levels of internal consistency necessary for offering explanations about the effects of Covid 19's induced challenges on organisational performance.

Lastly, the regression model was subjected to a series of tests so as to determine whether it is well-posed to offer robust and reliable insights capable of warranting solid and acceptable suggestions that are free from misspecification bias. This included applying the colinearity test in ascertaining the presence of multi-colinearity between the independent variables (Miles, 2014). The variables' normality was determined using a bar graph while serial correlation and the Durbin-Watson methods were applied in testing whether the regression model suffered from serial correlation problems (Bercu & Proïam, 2013). According to Bercu and Proïa (2013), a Durbin-Watson value close to 2 indicates that the regression model is free from serial correlation.

### **Ethical Considerations**

All the necessary research ethics steps were taken to ensure that the study adheres to acceptable research ethics standards. These measures include ensuring that the study does not cause physical and psychological harm to the participants. Other measures taken include making sure that the participants are well informed of the purpose of the study, their rights, its benefits and whether it affects their employment positions or not. Nonetheless, the questionnaire was assessed by the Ethical Committee to check for such aspects before it could be distributed to the employee participants. Apart from this, all the used literature sources were duly acknowledged.



**Limitations and delimitations**

The study strictly confined its focus to analysing industrial companies' managing directors' opinions regarding the effects of Covid 19's induced challenges on organisational performance. As such, questionnaires were limited to 1 managing director per industrial company. Thus, middle and lower-level managers' opinions, as well as employees' opinions, were excluded in this context. This can cloud and restrict vital novel judgements as other vital ideas from other managers and general employees are not considered. Moreover, by focusing on industrial companies, the study excludes insights and perceptions of non-industrial companies and this limits its coverage and implications. Moreover, the findings are most unlikely to be ungeneralizable to non-industrial companies as well as advanced economies like that of the United States of America as its findings are derived from a developing African economy.

## CHAPTER IV

### Results

#### Introduction

The presented findings are based on an analysis of questionnaire responses collected from 421 industrial companies' managing directors in Harare, Zimbabwe. The managing directors were drawn from 8 vital industrial sectors of the Zimbabwean economy comprising 42 manufacturing, 43 mining, 50 health care, 50 education, 46 telecommunications, 49 food and agriculture, 50 construction, 48 transport and 43 energy companies as presented in Table 2.

Table 2.

*Frequency tabulations of the participants' demographic details*

Variable	Description	Frequency	Percentage
Gender	Male	268	63.7
	Female	153	36.3
	<b>Total</b>	<b>421</b>	<b>100</b>
Type of industry	Manufacturing	42	24.2
	Mining	43	30.9
	Health care	50	15.0
	Education	50	8.8
	Telecommunications	46	4.0
	Food and agriculture	49	3.6
	Construction	50	5.9
	Transport	48	7.6
	Energy*	43	
	<b>Total</b>	<b>421</b>	<b>100</b>
Number of employees in the company	50 and below	125	29.7
	51–100	194	46.1
	101–300	91	21.6
	301–500	10	2.4
	501–1000	1	2
	<b>Total</b>	<b>421</b>	<b>100</b>

\* Solar power & small-scale fossil fuel (coal) producers

The findings presented in Table 2 denote that the industrial company managers comprise 268 male managers and 153 female managers. In line with the OECD's

definition of SMEs, less than 50 employees can be regarded as small, 100 to 249 employees as medium and more than 250 employees as large<sup>1</sup>.

### Overview of the Industrial Companies After the Pandemic

The study placed attention on retrieving information about the industrial companies' operational position and financial status after the pandemic. Amid such attempts, the analysed 421 questionnaire responses revealed that there were mixed opinions about the severity of the pandemic as shown in Figure 3. Nonetheless, a highly common consensus among the industrial companies contending that the pandemic posed a great impact on businesses and that companies barely maintained operations was indicated (n=165). This concurs with other previous studies' suggestions positing that the pandemic has had disastrous effects on companies (Bourguignon, 2005; Gerald, Obianuju & Chukwunonso, 2020; Tu, Li & Wang, 2021).

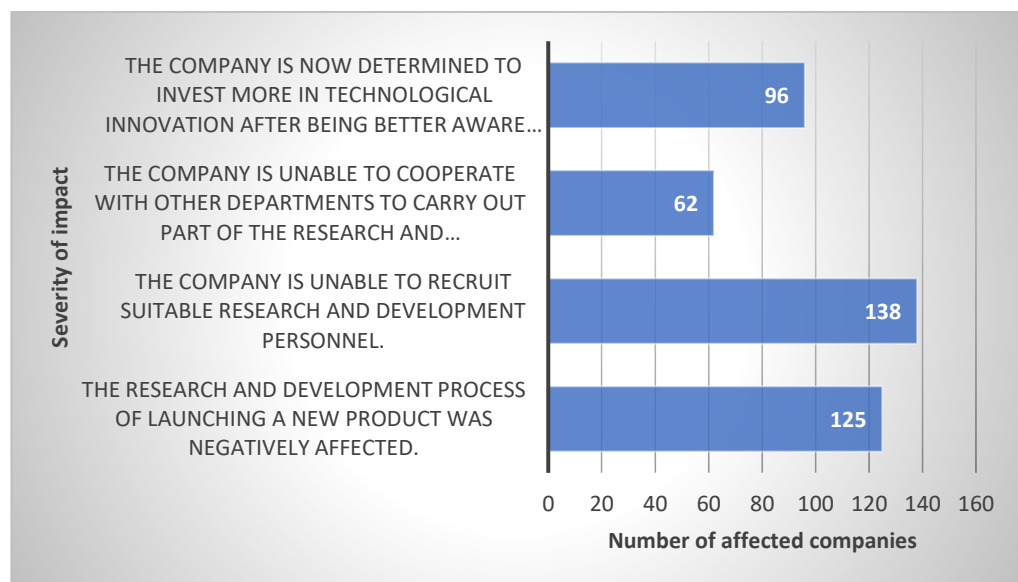


Figure 3.

#### *The severity of the impact posed by the pandemic*

The findings revealed that 159 managers contended that the Covid-19 pandemic posed very serious effects resulting in serious business difficulties. Such effects cannot be ruled as indicated in 's study citing that several companies went

<sup>1</sup> OECD. Enterprises by business size. Retrieved from <https://data.oecd.org/entrepreneur/enterprises-by-business-size.htm> on 3 June 2022.

bankrupt while others were forced to scale down operations due to financial difficulties.

Though it is widely accepted that the pandemic has severe adverse effects on companies, the positive impact of the pandemic cannot be ruled. Consequently, 60 managers indicated that the pandemic had a positive impact and created development opportunities. This is possible because the demand for telecommunications services and medical products rose significantly as companies and individuals were engaged in risk avoidance and elimination approaches to the pandemic.

Table 3.

*Descriptive analysis of Covid-19's effects on companies' operations*

	<b>Frequency</b>	<b>Percent</b>
Very serious impact, leading to serious difficulties in business operations and bankruptcy	159	37.8
Great impact: operations barely maintained	165	39.2
Small impact: some difficulties in business operations, but overall stability	29	6.9
No significant impact	8	1.9
Positive impact, providing new opportunities for development	60	14.3
Total	421	100.0

Besides, it is academically documented that corporate risks or structural rigidities-related risks create opportunities for making huge returns, especially for risk tolerate companies and individuals (Tursoy & Andrea, 2021). Moreover, this can be supported by further findings revealing that 8 managers indicated that the pandemic had so significant impact on their companies. Only 29 managers indicated that the effects were small and posed challenges in their operational activities.

Amid observations that Covid-19 in overall posed severe effects on companies, the study proceeded to uncover the main operating pressures faced by industrial companies. 32% of the companies were mainly confronted by rent challenges and 31% faced employee salaries-related challenges as shown in Figure 4. 16% of the companies were confronted with payment of accounts payables (debtors), 15% with loan repayment issues and 6% with the cancellation of orders challenges. These

findings depict that the Covid-19 pandemic posed huge financial concerns among companies and undermined the companies' ability to meet their financial obligations.

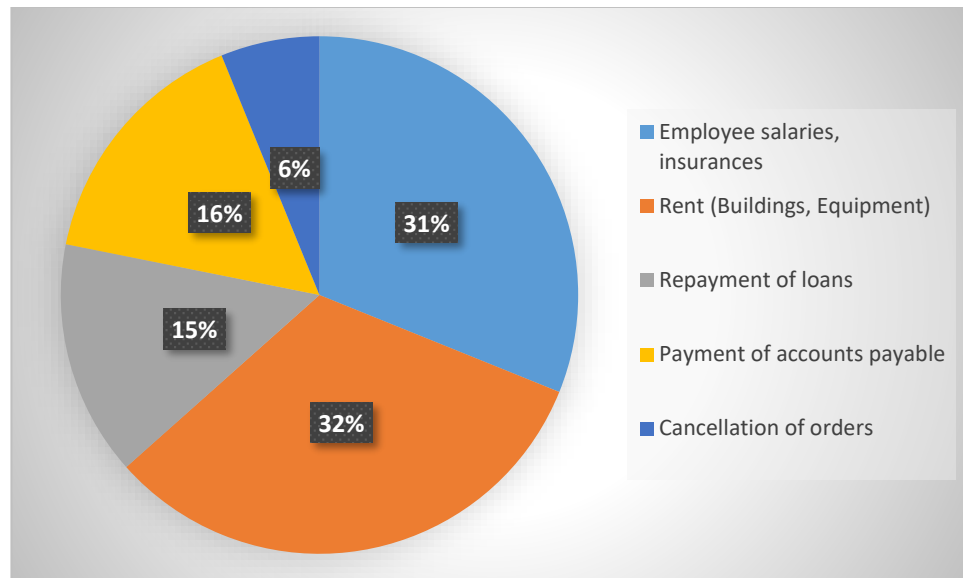


Figure 4.

#### *Operating pressures faced by the industrial companies*

Given that research and development form a key component in addressing and formulating key measures essential in mitigating the impacts of the pandemic, this study integrated attempts to ascertain the impact of the pandemic on research and development, and innovation. There were strong indications of the companies being incapacitated to find a suitable recruitment channel (n=108) and that the pandemic increased their labour costs (n=65).

160 managing directors indicated that their companies were now determined to shift to online recruitment as depicted in Figure 5. Such a move is highly welcome as information and technology, especially internet related technology and applications work methods proved to be key strategies for companies in minimising and averting the risks and challenges posed by Covid-19 (Alonso et al., 2020; Fitriasaki, 2020).

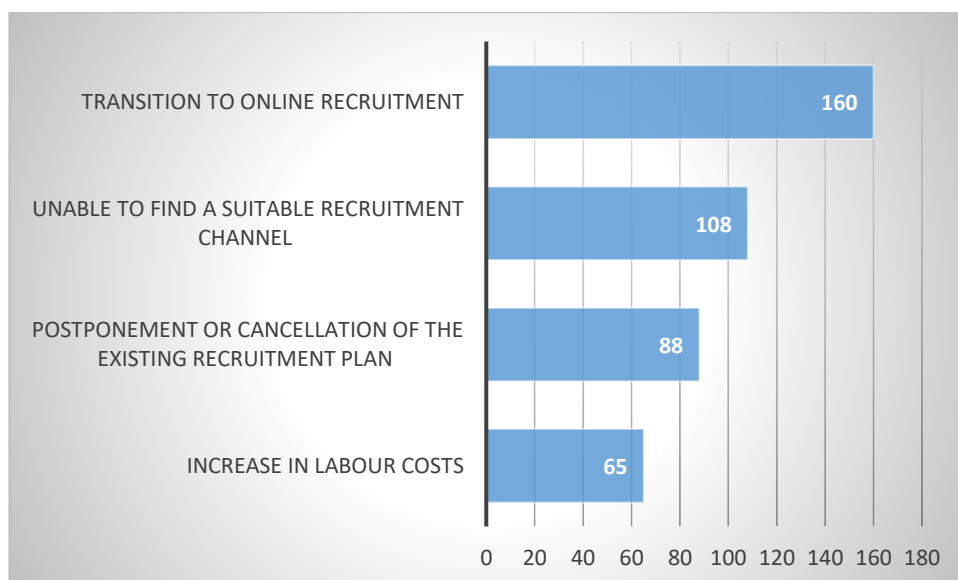


Figure 5.

#### *Impact of the pandemic on research and development, and innovation*

Further attempts were made to explore the effects of the pandemic on the companies' recruitment. 38% of the managing directors indicated that they were transitioning to online recruitment as shown in Table 4.

Table 4.

#### *The effects of the pandemic on recruitment*

<b>The effects of the pandemic on recruitment</b>	<b>Frequency Percentage</b>	
	Frequency	Percentage
Increase in labour costs	65	15.4
Postponement or cancellation of the existing recruitment plan	88	20.9
Unable to find a suitable recruitment channel	108	25.7
Transition to online recruitment	160	38.0
<b>The clearest impact of the pandemic on the companies' research and development, and innovation</b>		
Increased labour costs.	93	22.1
Reduced slightly by 10–30%.	122	29.0
Increased greatly by 30–50%.	111	26.4
Reduced greatly by 30–50%.	38	9.0
Remained basically the same.	57	13.5

On a similar note, 25.7% of the companies were unable to find a suitable recruitment channel, 20.9% had postponement or cancellation of the existing recruitment plan while 15.4% of the companies experienced an increase in labour costs

due to recruitment pressure posed by the pandemic. It, therefore, becomes evident through these findings that the pandemic affected industrial companies' recruitment exercises. Amid such observations, the study shifted attention to determining the clearest impact of the pandemic on the companies' research and development, and innovation. As such, it was established that 29.4% of the companies experienced a slight reduction in their research and development, and innovation by 10 to 30%. This was followed by indications showing that 26.4% of the companies experienced an increase in their research and development, and innovation by 30 to 50%. Only 9% of the companies observed a reduction in research and development and innovation of 30 to 50%.

Further quests were made to explore and determine which of the Covid 19 induced challenges affected the industrial companies the most. 115 companies experienced a reduction in working hours, and 83 companies suffered from workers' pay cut problems. 79 companies indicated that they were much affected by business lockdowns and 68 by employee retention problems induced by the pandemic as shown in Figure 6. These findings exhibit the various complexities posed by the pandemic on industrial companies and are instrumental for policy formulation and decision-making purposes.

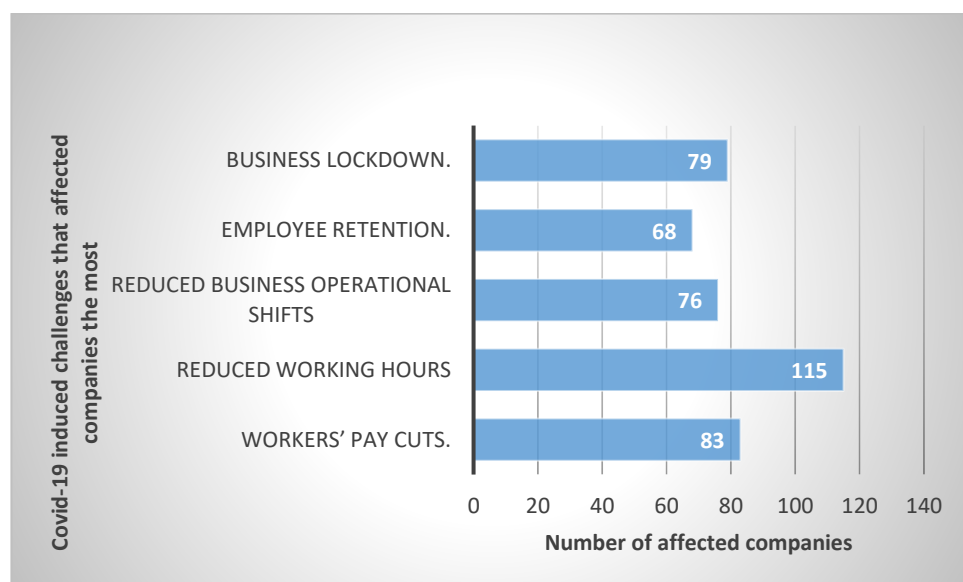


Figure 6.

*Covid-19 induced challenges that affected companies the most*

Solutions to the above-disclosed problems were mainly interlinked in initiatives requiring the establishment of ways the pandemic affected the industrial company in the first quarter of 2020. Amid such attempts, the findings denoted that 120 companies made profits, 94 incurred losses, 86 incurred serious losses, 83 made profits and 38 went bankrupt as illustrated by Figure 7.

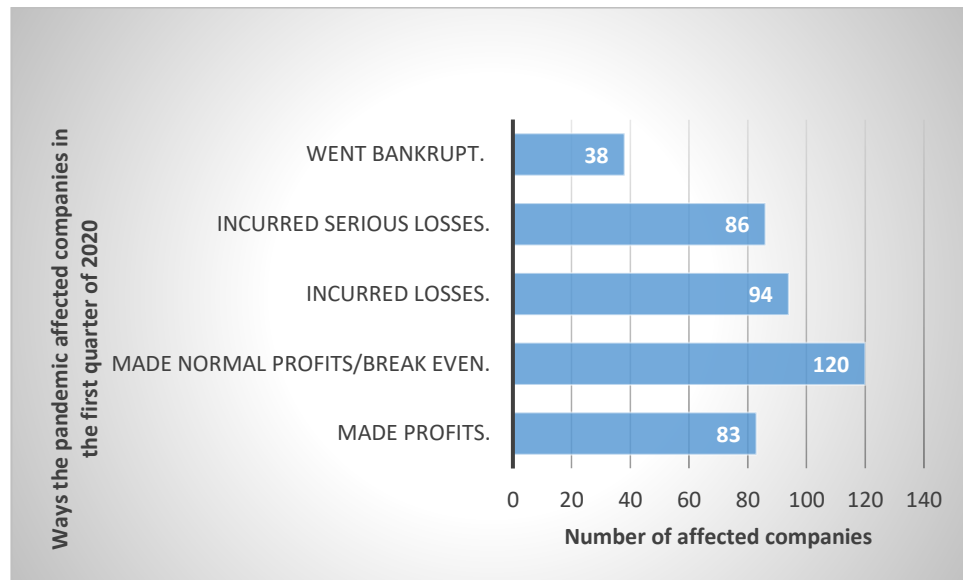


Figure 7.

*Ways the pandemic affected companies in the first quarter of 2020*

In overall, Figure 7 shows that the pandemic adversely affected industrial companies. This, therefore, calls for measures to cushion industrial companies from the severe effects of the pandemic. From a different perspective, the study undertook initiatives to ascertain the industrial companies' expected revenue change in the next three months amid the relaxation of lockdown and travel restrictions. 140 industrial companies expected their revenue to increase by less than 10%, 68 expected no change in expected revenue, 70 expected a decrease in expected revenue by less than 10%, and 78 expected an increase in revenue by more than 10% (see Figure 8).



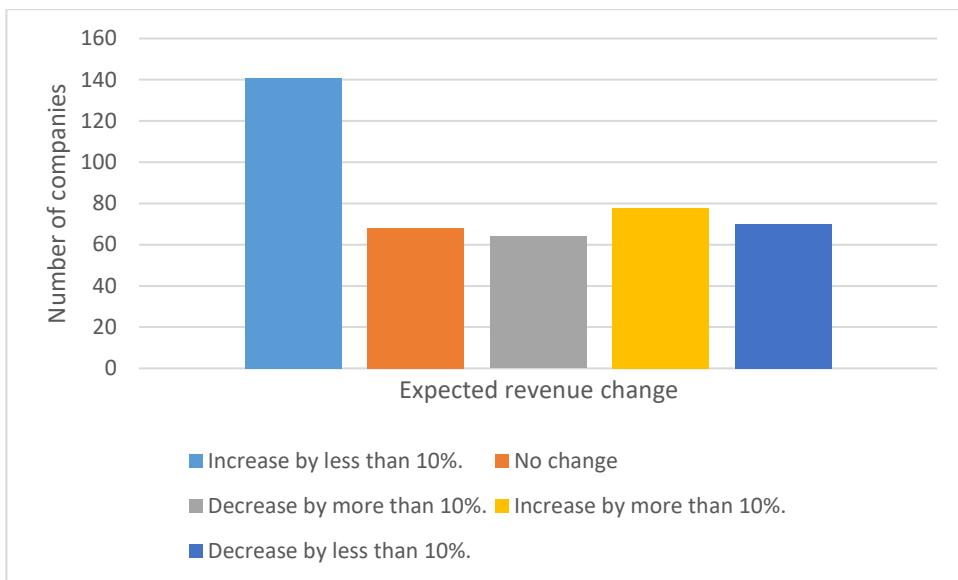


Figure 8.

*Industrial companies’ expected revenue change*

Lastly, attempts to uncover an overview of the industrial companies led to efforts being made to explore the self-help measure taken so far by the companies. 140 companies implemented a remote/digital office, 133 companies cut wages, salaries and jobs, 84 companies increased online operations, and 64 companies applied for financing as shown in Figure 9.



Figure 9.

*Self-help measures taken by the companies during the pandemic*

This merely portrays strategic actions taken by industrial companies to ease the effects of the pandemic but is not concrete enough to warrant substantial improvements in organisational performance. Such attempts will be uncovered in the subsequent sections as the study attempts to examine the interactions between the induced Covid-19 challenges and the industrial companies' performance.

### **Descriptive Statistics**

Descriptive statistics comprising mean and standard deviation statistical tests were applied to the two latent Covid-19 and organisational performance latent variables. The motive was to uncover basic information about Covid-19 and organisational performance variables in the dataset as well as to provide simple summaries about the sample and the measures. The findings are subsequently presented as follows;

#### **A descriptive analysis of Covid-19 variable constructs**

The computed descriptive analysis results show that Covid 19 lockdown measures have made it difficult for companies to operate as supported by a high mean value of 4.584 with a related standard deviation of the value of 0.498. Such findings conform to previous suggestions indicating that the pandemic has been linked with severe disastrous effects undermining companies' operational capacity and performance (Bourguignon, 2005; Gerald, Obianuju & Chukwunonso, 2020; Tu, Li & Wang, 2021).

Table 5, also, shows that industrial companies' employees are less willing to commit to companies because of the fear of contracting Covid 19. This is evidenced by a relatively high mean value of 4.561. Such is undoubtedly true as employees exercise caution to avoid contracting the disease (Apedo-Amah et al., 2020; Zou, Hou & Li, 2020). Table 5 portrays that Covid 19 restrictions implemented by governments have led to a decline in companies' operational activities (mean = 4.539: standard deviation = 0.499).

Table 5.

*A descriptive analysis of Covid-19 variable constructs*

<b>Covid-19 variable constructs</b>	<b>Mean</b>	<b>Std. Deviation</b>
Covid 19 restrictions implemented by governments have led to a decline in companies' operational activities.	4.539	0.499
Covid 19 lockdown measures have made it difficult for companies to operate.	4.584	0.498
A lot of companies closed operations since Covid 19 started.	4.411	0.512
The number of newly registered companies has declined significantly.	4.409	0.492
Businesses' operational shifts have declined significantly.	4.280	0.455
Several companies suffered from contract breach risk because of Covid 29.	4.344	1.998
There has been a huge decline in external demand following the occurrence of Covid 19.	4.266	0.458
COVID-19 restrictions put a strain on the financial situation of industrial companies.	4.337	0.478
The problem of raw material shortages has increased severely because of Covid 19.	4.337	0.478
Company employees have experienced massive pay cuts since the start of the pandemic.	4.437	0.497
Companies continue to experience logistics disruptions because of Covid 19.	4.511	0.505
Employees are less willing to commit to companies because of the fear of contracting Covid 19.	4.561	0.516
Company employees have experienced massive pay cuts since the start of the pandemic.	4.523	0.500
The number of working hours worked by an ordinary person has been reduced for health and safety reasons.	4.394	0.531

Traces of the pandemic being linked to ideas denoting that company employees have experienced massive pay cuts since the start of the pandemic are also observed to be major issues among industrial companies (mean=4.523: standard deviation=0.500). This includes strong suggestions that Companies continue to experience logistics disruptions because of Covid 19 (mean=4.511: standard deviation=0.505), as well as COVID-19 restrictions, which put a strain on the financial situation of industrial companies (mean=4.337: standard deviation=0.478), and the problem of raw material shortages has increased severely because of Covid 19

(mean=4.337: standard deviation=0.478). In overall, the purported adverse effects of the pandemic were relatively high as evidenced by their high means scores surpassing a mean value of 4.

### **A descriptive analysis of organisational performance variable elements**

With the aid of mean values and standard deviation, the study was able to uncover basic information about the organisational performance variable elements in the dataset. Table 6 shows that several industrial company managing directors indicated a relatively strong agreement that they expect the company to start performing following the relaxation of lockdown and travelling rules (mean = 4.606; standard deviation = 0.489). This is congruent to study findings denoting that the relaxation of the Covid-19 restrictions led to major improvements in business activities (Beck & Hensher, 2020; Obi et al., 2020). In a study by Alekseev et al. (2022), it was observed that the pandemic posed severe risks that hindered employees from pursuing their companies' objectives. As such, insights depicted in Table 6 mirror such findings and denoted that several managing directors indicated that they strongly agree that employees are not prepared to go an extra mile for the company (mean = 4.556; standard deviation = 0.497).

Table 6's findings also highlight that the pandemic had contagion effects on other corporate activities. This can be reinforced by strong indications denoting that the company's sales volumes remained relatively low amid the unending challenges caused by Covid 19 (mean = 4.558; standard deviation = 0.497). Moreover, there were also strong indications that companies' participation in corporate social responsibility activities was adversely affected by Covid 19 (mean = 4.556; standard deviation = 0.516). This is evidently true as the pandemic severely undermines other corporate activities and indicators such as organisational performance (Ahmed et al., 2020; Kniffin et al., 2021; Papadopoulos, Baltas & Balta, 2020).

Other strong indications of the negative effects of the pandemic on organisational performance indicators were linked to observations denoting that the companies are now limiting their environmental protection programs to reduce their operational expenses (mean = 4.523; standard deviation = 0.500) and Covid 19 health and safety protocols caused a huge increase in companies' operational expenses (mean = 4.513; standard deviation = 0.500) as shown in Table 6.

Table 6.

*A descriptive analysis of organisational performance variable constructs*

<b>Organisational performance variable constructs</b>	<b>Mean</b>	<b>Std. Deviation</b>
Covid 19 health and safety protocols have caused a huge increase in companies' operational expenses.	4.513	0.500
The company's sales volumes have remained relatively low amid the unending challenges caused by Covid 19.	4.558	0.497
The effects of Covid 19 on companies were significantly different from one company to the other.	4.423	0.513
Some companies performed better than others during Covid 19.	4.418	0.494
It has proved difficult to gain a huge market share during Covid 19.	4.314	0.470
The company's ability to grow and expand operations have been restricted by Covid 19.	4.287	0.498
Productivity levels have remained steadily low amid the decline in the number of recorded Covid 19 cases.	4.287	0.498
Our company has been experiencing a massive decline in market share because of lockdown measures introduced by the government.	4.368	0.488
Work-at-home strategies have led to a significant decline in employee productivity.	4.401	0.496
A lot of employees were retrenched/laid off during the start of the Covid 19 pandemic.	4.461	0.499
The company is no longer investing in employee training and development programs.	4.506	0.505
The company's participation in corporate social responsibility activities has been negatively affected by Covid 19.	4.556	0.516
The company is are now limiting its environmental protection programs to reduce its operational expenses.	4.523	0.500
Marketing programs have intensively switched to online platforms.	4.394	0.531
This pandemic will affect our company's development in the last quarter of 2022.	4.463	0.509
I expect the company to start performing following the relaxation of lockdown and travelling rules.	4.606	0.489
Employees are not prepared to go an extra mile for the company.	4.556	0.497
Absenteeism and turnover in my organization relative to competition are very low.	4.371	0.548
The reputation of my organization in eyes of the customers has declined.	4.451	0.527

### Factor Analysis Test

Factor analysis was applied with the goal of ascertaining Covid-19 variables constructs that are related to each other (Bolstic et al., 2000). As per Bolstic et al.'s (2000) recommendations, only variables with factor loadings of at least 0.60 were selected and considered related and this is higher than the 0.50 limit proposed by other studies (Aftanorhan, 2013). Subsequently, 10 Covid-19 variables' constructs had factor loadings of at least 0.60 as shown in Table 7. Hence, were considered to be related to each other (Bolstic et al., 2000).

Table 7.

#### *Factor analysis of Covid-19 variable elements*

	<b>Factor Loadings</b>
Covid-19 restrictions implemented by governments have led to a decline in companies' operational activities.	0.645
Covid-19 lockdown measures have made it difficult for companies to operate.	0.785
A lot of companies closed operations since Covid-19 started.	0.700
The number of newly registered companies has declined significantly.	0.627
Covid-19 restrictions put a strain on the financial situation of industrial companies.	0.734
Company employees have experienced massive pay cuts since the start of the pandemic.	0.668
Companies continue to experience logistics disruptions because of Covid-19.	0.746
Employees are less willing to commit to companies because of the fear of contracting Covid-19.	0.698
Company employees have experienced massive pay cuts since the start of the pandemic.	0.732
The number of working hours worked by an ordinary person has been reduced for health and safety reasons.	0.718

Thus, further statistical examinations were carried out using the selected 10 Covid-19 variables constructs. In light of the established Covid-19 factor loadings, similar tests were performed on the variable organisational performance and the findings are presented in Table 8.

Table 8.

*Factor analysis of organisational performance variable elements*

	<b>Factor Loadings</b>
Covid 19 health and safety protocols have caused a huge increase in companies' operational expenses.	0.712
The effects of Covid 19 on companies were significantly different from one company to the other.	0.743
The company's ability to grow and expand operations have been restricted by Covid 19.	0.722
Our company has been experiencing a massive decline in market share because of lockdown measures introduced by the government.	0.796
A lot of employees were retrenched/laid off during the start of the Covid 19 pandemic.	0.747
The company is are now limiting its environmental protection programs to reduce its operational expenses.	0.795
Marketing programs have intensively switched to online platforms.	0.758
I expect the company to start performing following the relaxation of lockdown and travelling rules.	0.788
Employees are not prepared to go an extra mile for the company.	0.798

9 organisational performance variable constructs were selected in modelling the effects of Covid-19's induced challenges on organisational performance in Zimbabwe. This was based on the relatedness of the variable constructs as denoted by factor loading surpassing 0.60 (Bolstic et al., 2000), which again is higher than the 0.50 limit proposed by other studies (Aftanorhan, 2013). As a result, further tests were conducted to determine additional details such as the correlational details of the variables.

## **Model Tests**

### **Colinearity test**

Prior model tests were conducted to ascertain the estimated model's capacity to offer reliable and valid findings that are free of misspecification issues. A Multicollinearity test involving the application of the Variance Inflation Factor (VIF) was deployed to ascertain if the estimated regression model suffers from multicollinearity issues. Based on the established findings shown in Table 10, it is imperative that there are no multicollinearity issues observable with the estimated regression model as all the VIF values are less than 3 (Miles, 2014).

Table 9.

*Collinearity statistics*

Variable	Collinearity statistics	
	Tolerance	VIF
Operational Challenges	0.830	1.198
Financial Challenges	0.866	1.154
Supply Chain and Logistical Challenges	0.880	1.132

**Normality test**

Meanwhile, a histogram was utilised in determining if the regression model is normally distributed. Figure 10 reveals that the model is relatively linear and normal and hence, issues undermining the model variables' ability to conform to linearity and normality distribution requirements are not evident.

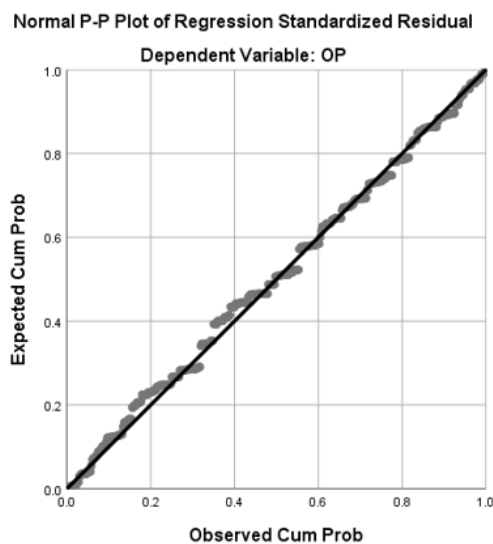


Figure 10.

*Normal P-P plot of regression standardised residuals*

Figure 9 results imply that the estimated model has no misspecification challenges capable of undermining its validity and reliability. To further validate the explanatory power and reliability of the model, model summary and serial correlation tests were conducted and the results are presented in the next section.



### Model summary and serial correlation tests

To further validate the absence of misspecification issues affecting the estimated model, the study proceeded to use the Durbin-Watson statistic test in examining if the regression model suffers from serial correlation problems. According to Bercu and Proia (2013), a Durbin Watson value of 1.860 which is close to 2 was obtained and this implied that the model was free from serial correlation (see Table 10). Consequently, the regression analysis results were discussed with a high level of assurance concerning their validity and reliability in describing the impact of Covid-19-induced challenges on organisational performance.

Table 10 shows that the estimated regression model was characterised by an R Square value of 0.700 and this entails that 70% of the changes in organisational performance are explained by Operational Challenges (OC); Financial Challenges (FC); Supply Chain and Logistical Challenges (SCLC). Hence, 30% of the changes in organisational performance are explained by other variables outside the model. Meanwhile, an insignificant difference of 0.04 between R Square and adjusted R Square was observed, implying that there are no misspecification issues affecting the model (Chatterjee & Simonoff, 2013).

Table 10.

#### *Model summary and serial correlation test*

<b>R Square</b>	<b>Adjusted R Square</b>	<b>Std. Error of the Estimate</b>	<b>Durbin Watson</b>
0.700	0.698	0.089	1.860

*Dependent variable:* Organisational performance

*Independent variables:* Operational Challenges (OC); Financial Challenges (FC); Supply Chain and Logistical Challenges (SCLC).

Lastly, the ANOVA test was used in validating the model concerning the absence of outliers and specification bias (see Table 11). A significant F-statistic value of 325.082 at 1% was observable and this portrays that there were no outliers and specification bias (Chatterjee & Simonoff, 2013).

Table 11.

*ANOVA test*

	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
Regression	7.721	3	2.574	325.082	0.000 <sup>b</sup>
Residual	3.301	417	0.008		
<b>Total</b>	<b>11.022</b>	<b>420</b>			

a. Dependent Variable: OP

b. Predictors: (Constant), FC, OC, SCLC.

**Reliability test**

The reliability of the model variables was verified using Cronbach's alpha test requiring that all the model variables possess alpha values of at least 0.70 if reliability is to be attained (Heo, Kim & Faith, 2015). In line with such a condition, the combined variables had a Cronbach's alpha value of 0.810 implying that the model reliably explains the impact of Covid-19-induced challenges on organisational performance by 80.6%. The combined reliability of the model renders the implications of such observations significant. The variables OC, FC, and SCLC had high reliability of 0.780, 0.844 and 0.790, respectively while organisational performance was associated with a Cronbach's alpha value of 0.803. Given that the model has been validated from both validity and reliability issues, the study proceeded in interpreting the regression analysis results with a high level of assurance that the findings are valid and reliable for policy formulation and decision-making purposes.

Table 12.

*Reliability test*

<b>Variable</b>	<b>Cronbach's Alpha</b>	<b>Model Reliability</b>
OC	0.780	
FC	0.844	
SCLC	0.790	0.810
OP	0.803	

**OC:** Operational Challenges; **FC:** Financial Challenges; **SCLC:** Supply Chain and Logistical Challenges.

### Correlation Coefficient Test of Covid-19 Induced Challenges

The Pearson correlation coefficient test was applied in determining how organisational performance (OP) was correlated with the Covid-19-induced challenges (OC, FC and SCLC) triggered by the prevalence of the pandemic. Amid such efforts, a significant positive correlation of 0.779 was established between organisational performance (OP) and Covid-19 induced challenges (OC, FC and SCLC). This portrays and justifies arguments laid forth in the prior chapters of the study hinting that certain companies such as those in the medical and technical; industries made profits during the pandemic while others were experiencing downturns. This is contrary to examinations that revealed that operational challenges experienced during the pandemic triggered supply disruptions as well as logistical movements of goods and the provision of services and inevitably led to a decline in organisational performance (Tangthong, 2020). This is undoubtedly true as the pandemic has been linked to various complexities and challenges (Bourguignon, 2005; Gerald, Obianuju & Chukwunonso, 2020; Tu, Li & Wang, 2021).

Table 13.

#### *Correlation coefficient test of Covid-19 induced challenges*

		Organisational performance	Covid-19
<b>Organisational performance</b>	Pearson Correlation	<b>1</b>	
	Sig. (2-tailed)		
	N	421	
<b>Covid-19</b>	Pearson Correlation	0.779**	<b>1</b>
	Sig. (2-tailed)	0.000	
	N	421	421

Though these observations are pertinent for having a foundational understanding of the interaction between the induced Covid-19 challenges, further tests are required to ascertain how such challenges affected industrial companies. In this regard, solid and robust ideas can be established for policy formulation and decision-making purposes. Therefore, the study proceeded in applying a multivariate analysis involving the established Covid-19-induced challenges and organisational performance.

## Regression Analysis Results

Again, regression analysis was deployed in this context with the intention of establishing the exact impact and significance of the impact of purported Covid-19 induced challenges on organisational performance controlled by industry type and company size. Preliminary findings shown in Table 14 denote the existence of a significant positive interaction of 0.374 linking operational challenges with organisational performance. This implies that a 1-unit increase in operational challenges caused an increase in organisational performance by 0.374 units with an explanatory power of 48.1%. Such findings contrasts Tangthong's (2020) findings denoting that operational challenges are an obstacle to improved organisational performance. Other opposing studies have shown that the severity of operational challenges' adverse effects on organisational performance are significantly high, especially during Covid 19 (Laurea, 2021; Wanasida, Berbnato & Sudibio, 2021; Zou, Huo & Li, 2021). As a result, the propositions of null hypothesis 1, contending that Covid-19's induced operational challenges have a significant relationship with the performance of industrial companies are accepted.

Table 14.

### *Regression analysis results*

	$\alpha$	B	Std. Err.	Beta	t.	Sig.	R <sup>2</sup>	Adj. R <sup>2</sup>	Anova F-stat.
OC	2.783	0.374	0.019	0.694	19.746	0.000	0.482	0.481	389.890*
FC	3.816	0.145	0.014	0.444	10.140	0.000	0.197	0.195	102.824*
SCLC	2.375	0.023	0.023	0.632	16.6850	0.000	0.399	0.398	278.386*

**OC:** Operational Challenges; **FC:** Financial Challenges; **SCLC:** Supply Chain and Logistical Challenges. \* Significant at 1%

Further attempts to uncover the impact of other Covid-19-induced challenges on organisational performance revealed that financial challenges have low significant positive effects on organisational performance of 0.145 with an explanatory power of 19.7%. Again, this is inconsistent with Tangthong's (2020) proposition denoting that financial challenges will to a large extent hinder organisational performance. The prevalence of financial challenges during the pandemic has been noted to be a prominent feature affecting several companies (Laurea, 2021; Wanasida, Berbnato & Sudibio, 2021; Zou, Huo & Li, 2021). Consequently, null hypothesis 2, asserting that

Covid-19's induced financial challenges have significant relationship with the performance of industrial companies was accepted as displayed in Table 14.

The significance of supply chain and logistic challenges' effects on organisational performance were validated leading to the acceptance of null hypothesis 3. As such, a positive relationship of 0.023 between SCLC and organisational performance with an explanatory power of 39.9% was established. These findings add weight to the yet-to-be-tested Tangthong's (2020) empirical literature review contending that supply chain and logistic challenges hinder organisational performance. The three estimated models had no outliers as suggested by the ANOVA values that were significant at 1% (OC=389.890; FC=102.824; and SCLC=278.386) as suggested by Osborne and Overbay (2004).

ANOVA test was further applied to test the significance of the Covid-19 pandemic on gender, employment level, size of the company and industrial sector bearing in mind that certain companies were forced to close down operations (Ahmed et al., 2020; Kniffin et al., 2021), while others made profits (Apedo-amah et al., 2020; Bloom, Fletcher & Yeh, 2021) and downsize (Papadopoulos, Baltas & Balta, 2020) because of the pandemic. No significant differences were observed concerning the impact of the induced Covid-19 challenges on gender (F-stat. = 0.528: 0.925) and employment level (F-stat. = 1.289: 0.205). However, the findings evidently prove and validate the significant widespread effects of the pandemic across industries (F-stat. = -2.282: 0.004) and among companies of different sizes (F-stat. = -1.153: 0.007) as shown in Table 15. It is amid such observations that policy and decision-making measures will be coined.

Table 15.

*ANOVA tests results*

<b>Variable</b>	<b>Tested impact/hypothesis</b>	<b>F-statistic</b>	<b>Sig.</b>	<b>Decision</b>
Gender	COV - > Gender	0.528	0.925	-
Employment level	COV - > Employment level	1.289	0.205	-
Size of the company	COV - > Company size	2.282	0.004	Accept H <sub>4</sub>
Industrial sector	COV - > Type of industry	1.153	0.007	Accept H <sub>5</sub>

## **Discussion of Findings**

In the study's prior attempt to ascertain the significance of the relationship between operational challenges and the performance of industrial companies, hypothesis 1 was validated. Though studies had conceptually highlighted that the high prevalence of operational challenges posed by the pandemic adversely affected companies (Laurea, 2021; Wanasida, Berbnato & Sudibio, 2021; Zou, Huo & Li, 2021), the results indicated that certain companies actually benefited and took advantage of operational challenges posed by the pandemic. Though such findings do not validate the adverse effects of operational challenges on performance, validating Tangthong's (2020) purported operational challenges on organisational performance had been one of the underexplored areas. Hence, this study's contributions are primarily centred on the validation of Tangthong's (2020) ideas in the context of a South African country (Zimbabwe) amid a rise in studies focusing on other countries such as Thailand (Tangthong, 2020), China (Rababah et al., 2020; Shen et al., 2020), Nigeria (Aifuwa, Saidu & Aifuwa, 2020) and USA (Song, Yeon & Lee, 2021). Nonetheless, the positive interaction between operational challenges and organisational performance is attributed to an increase in operational capacity which in turn leads to an increase in output produced and services provided following an increase in demand for Covid-19 risk-averse products and services. Consequently, such an increase in output and services positively affects performance, especially when not matched against rising operational costs and other expenses like wages and salaries. This has been a major problem that affected several companies during the pandemic as the severity of operational problems faced by companies continued to widen and deepen and yet revenue inflows slumped significantly (Laurea, 2021; Wanasida, Berbnato & Sudibio, 2021; Zou, Huo & Li, 2021). This lends credence to the established study findings about the positive relationship between operational challenges and organisational performance.

Propositions laid by the second hypothesis that financial challenges have a significant relationship with organisational performance were validated in the context of Zimbabwean companies. Amid such observations, Tangthong's (2020) laid forth such suggestions but did not empirically test the validity of such propositions. Nonetheless, previous studies do not align with this study's findings as they portray a negative relationship denoting that the companies' ability to meet short-term

obligations, such as operations and investing in profitable assets and projects declines due to restrictions posed by financial challenges, which drive down performance (Alonso et al., 2020; Fitriasari, 2020). As a result, a company's ability to earn revenue in the future is constricted causing costs to outweigh revenue inflows (losses).

The advent of supply chain and logistical problems posed by the pandemic were observed to be having a significant relationship with the industrial companies' performance. Related study ideas by Tangthong's (2020) study disclosed that supply chain and logistical problems tend to hinder organisational performance and yet this study's results portray a positive interaction spanning from supply chain and logistical problems to organisational performance. This reiterates study arguments behind the execution of this study aimed at illustrating that the pandemic opened avenues for other industries and companies to amass profits. Nonetheless, Tangthong does not validate his propositions using statistical means as has been done in this study. Thus, by validating such ideas (hypothesis 3), a better understanding of how innovative production and supply methods can be used to alleviate problems undermining performance is conceivable.

In another instance, the study accepted hypothesis four concerning propositions highlighting the significant effects of firm size on organisational performance during the pandemic. Though such a proposition is associated with mixed reactions as some studies suggest that it is positive (Asterious & Panos, 2019; Brancaccio, Garbellini & Giammetti, 2018), while others verified it to be negative (Cicea, Popa, Marinescu & Cătălina 2019; Rehman, Mohamed & Ayoup, 2019), this study's findings have shown they are negatively connected together. Hence, in such cases, the study considers that the pandemic restricted the growth in the size of industrial companies. Thus, on a corporate level, introducing risk mitigation measures like work at home and online marketing and shopping measures can be instrumental in aiding industrial companies boost their corporate performance levels. However, it is important to bear in mind that the effects of the industrial sector on organisational performance are also evident in several cases and can be positively linked to improved performance among industrial companies. Hence, this is essential for resolving emerging but contradicting viewpoints about the pandemic hindering corporate performance through reduced industrial activities and growth (Cicea, Popa, Marinescu & Ştefan, 2019; Derbali & Jamel, 2018; Rehman, Mohamed & Ayoup, 2019). Amid such arguments, other studies

are of the view that the pandemic created opportunities for other industries to make substantial profits at a time when other industrial companies were recording huge losses. References can be made with regard to online learning (Adedoyin & Soykan, 2020; Irawan, Dwisona & Lestari, 2020), online shopping (Ali, 2020; Nguyen et al., 2020), work from home (Engle, Stomme & Zhou, 2020; Yang et al., 2020), etc. It is academically and practically sound to infer that certain industries are more immune to Covid 19's effects compared to others. The validity of such a notion is significantly evident in previous studies that demonstrated similar influences concerning other forms of structural events like drought (Brancaccio, Garbellini & Giammetti, 2018), financial crisis (Asterious & Panos, 2019), great depression (Kehoe, Ruhl & Sternberg, 2018), housing and marketing bubbles (Mazza & Quattrone, 2017), oil price crash (Wen et al., 2019), etc. Therefore, novel suggestions about industrial companies taking advantage of the complexities and difficulties posed by the pandemic to register improved performance are essential. Under such cases, diversification to existing and trending industrial services, products and strategic activities is essential for accomplishing such aims.

It can lastly be inferred from this study using hypotheses 4 and 5 results that the pandemic has significant adverse effects on corporate and industry indicators (company size and industry type). This entails structural events like Covid 19 undebatably undermine corporate indicators as suggested by previous studies (Alekshev et al., 2020; Dörr, Murmann & Licht, 2021; Groenewegen, Hardeman & Stam, 2021). As a result, the results of this study that have been derived from an African economy have proven that holding factors like social, political, economic and financial stability did not deter the pandemic from hindering industrial activities and the growth of industrial companies in size as observed in other countries such as Thailand (Tangthong, 2020), China (Rababah et al., 2020; Shen et al., 2020), Nigeria (Aifuwa, Saidu & Aifuwa, 2020) and USA (Song, Yeon & Lee, 2021).

### **Summary of the Obtained Findings**

Attempts to uncover the relationship between Covid-19-induced challenges and organisational performance through the application of a multivariate analysis approach have led to discoveries pointing that operational challenges; financial challenges; and supply chain and logistical challenges induced by Covid-19 are



positively related to the performance of industrial companies as illustrated using Table 16 showing a summary of the obtained findings. Additionally, the adverse effects of the pandemic on industries and company size were validated as suggested by related studies.

Table 16.

*Summary of the obtained findings*

<b>Variable impact</b>	<b>Supposed relationship</b>	<b>Observed relationship</b>	<b>Null hypothesis purporting a relationship</b>
OC - > OP	(-)	(+)	Accepted H <sub>1</sub>
FC - > OP	(-)	(+)	Accepted H <sub>2</sub>
SCLC - > OP	(-)	(+)	Accepted H <sub>3</sub>
COV - > Company size	(-)	(+)	Accepted H <sub>4</sub>
COV - > Industries	(-)	(+)	Accepted H <sub>5</sub>

**OC:** Operational Challenges; **FC:** Financial Challenges; **SCLC:** Supply Chain and Logistical Challenges; **COV:** Covid-19.

## CHAPTER VI

### Conclusions and Recommendations

#### Conclusions

In the midst of thriving studies about the effects of Covid 19 on organisational performance (Bourguignon, 2005; Gerald, Obianuju & Chukwunonso, 2020; Tu, Li & Wang, 2021) decomposing the impact of each distinct induced effect has been beyond their scope. Nonetheless, guided by Tangthong's (2020) empirical suggestions together with the reviewed ideas, the study sought to test the relationship between the identified three distinct induced Covid-19 effects pertaining to operational challenges, financial challenges and supply chain and logistics challenges controlled by industry type and company size using a multivariate analysis of industrial companies essential to the economic advancement of the Zimbabwean economy.

In line with the first hypothesis, the study infers that operational challenges posed by the pandemic are significantly and positively related to the performance of industrial companies. The findings lent credence to the established study findings about certain companies capitalising on the adverse effects of operational challenges undermining other companies' organisational performance. This is because operational challenges faced by companies during the pandemic were characterised by unmatched falling output and service levels against rising operational costs and other expenses like wages and salaries, yet companies capable of supplying health and IT products and services whose high demand was induced by the pandemic were able to amass huge gains. As a result, the study proved that there are contextual situations under which previous studies' hypothetical ideas concerning the positive interaction between operational challenges and industrial companies' performance can be validated. This represented the study's primary contribution to the scientific community.

Turning attention to the second and third hypotheses, the study demonstrated that the adverse effects of financial challenges and supply chain and logistical challenges on industrial companies' performance are bound to affect some companies and cause others to amass huge gains. As such, the obtained results demonstrated that certain Zimbabwean industrial companies' performance was positively affected by

financial challenges and logistical challenges during the pandemic. This transpired regardless of the pandemic having restricted companies' ability to meet their financial obligations, service debts and loans, and invest in profitable assets and projects resulting in a decline in future revenue inflow that is reflected through a decline in overall performance.

Surprisingly, the study rejected hypothesis 4 concerning propositions highlighting the effects of firm size on organisational performance during the pandemic. This leads to inferences being drawn that firm size and organisational performance negatively interact together during the pandemic. This implies that the pandemic restricts the growth in the size of industrial companies. These findings are essential for guiding corporate managers in devising effective measures aimed at boosting organisational performance during the pandemic. The importance of such implications cannot be underestimated as various strategic avenues have been availed and leave strategies like introducing risk mitigation measures such as work at home and online marketing and shopping measures are immediately availed to the disposal of industrial companies affected by the pandemic. Such propositions are instrumental in aiding industrial companies to boost their corporate performance levels.

Given that the study accepted hypothesis 5 postulating that industrial sector activities have a positive influence on organisational performance amid the rise in Covid-19-induced challenges. It is through such findings that this study has successfully validated arguments contending that there are vast opportunities and rewards embedded in the pandemic capable of generating huge profits when tapped by any company irrespective of other companies recording huge losses. That is, this study substantiates arguments asserting that certain industries are more immune to Covid 19's effects compared to others. As a result, this is crucial in establishing novel suggestions about industrial companies being underscored to take advantage of the complexities and difficulties posed by the pandemic to register improved performance.

Lastly, the study examined the impact of the pandemic on corporate indicators mainly firm-specific variables. Such attempts were guided by the need to test propositions that structural events like Covid 19 undebatably undermine corporate indicators like the firm size. Given that the validity of such observations is subjective as various factors are often held constant, the findings revealed that the pandemic undermined industrial activities and the industrial companies' size. These findings

have proven that holding factors like social and political instabilities, and economic and financial stability do not influence how the pandemic hinders the growth and development of the firm and industry-specific variables in an African economy as observable in some countries like Thailand (Tangthong, 2020), China (Rababah et al., 2020; Shen et al., 2020), and the USA (Song, Yeon & Lee, 2021).

Apart from statistically validating the effects of supply chain and logistical problems on industrial companies' performance, the study contributes to a better understanding of how innovative production and supply methods can be used to alleviate problems undermining performance. Most importantly, the study sheds light on existing debates about whether the pandemic created opportunities for certain industries to thrive or adversely affected all industries. For instance, some scholars documented low insignificant effects of Covid 19 on organisational performance (see Apedo-amah et al., 2020; Bloom, Fletcher & Yeh, 2021), while others have noted significant adverse effects of Covid 19 on organisational performance (Alonso et al., 2020; Fitriasari, 2020 2003). Additionally, this was contrary to other suggestions contending that Covid 19 adversely affected organisational performance (Laurea, 2021; Wanasida, Berbnato & Sudibio 2021; Zou, Huo & Li, 2021). However, this study's findings have proved that it can be maintained that Covid 19 undermines organizational performance through its induced challenges, especially when firms have not enacted sound strategies to curb the induced challenges hindering their operational activities and levels, financial potency and supply chain and logistics.

The theoretical contributions of this study are engraved in their potential to test the theoretical propositions of organisational performance theories in the context of structural problems, especially Covid-19 in African countries. Additionally, the theoretical contributions of the underlying organisational performance theories are assessed using widespread information drawn from various industries. This creates room for further testing and improving the underlying assumptions of organisational performance theories.

### **Recommendations According to Findings**

Given the impact of the purported operational, financial and supply chain and logistical challenges on organisational performance, the following policy and decision-making suggestions are underscored;

- Governments must avail of bailout packages in the form of Covid-19 fundings schemes aimed at resuscitating operations during and after the pandemic.
- Tax cuts and subsidies can be availed to ease operational challenges faced by industrial companies.
- On a corporate level, industrial companies need to introduce risk mitigation measures such as work at home and online marketing and shopping platforms to constantly keep both employees and customers engaged in their production and service provision activities.
- Diversifying into risk-free or current trends such as e-commerce (e-marketing, e-shopping, e-advertising, etc.) is essential for reducing the financial hardships posed by the pandemic.
- Investment in technological methods and systems is essential for improving supply and logistics so as to boost the performance of industrial companies.

### **Recommendations for Future Research**

Though the findings can be generalised to other countries' industries as they are drawn from eight different industries, they do not provide exact details about which industries suffered and which industries benefited from the pandemic as the pandemic created opportunities for medical and technological industries to make huge profits. In this regard, future studies must compare the performance of various industries during the pandemic. Additionally, testing the moderating effects of industry and company size can prove to be essential in enhancing understanding of how the induced effects of the pandemic affected the performance of industrial companies.

## REFERENCES

- Ackermann, S. (Ed.). (2012). *Are small firms important? Their role and impact*. Springer Science & Business Media.
- Acs, Z. (1996). *Small firms and economic growth*. Edward Elgar Publishing.
- Adedoyin, O. B., & Soykan, E. (2020). Covid-19 pandemic and online learning: the challenges and opportunities. *Interactive Learning Environments*, 1-13.
- Ahmed, T., Shahid Khan, M., Thitivesa, D., Siraphatthada, Y., & Phumdara, T. (2020). Impact of employees engagement and knowledge sharing on organizational performance: Study of HR challenges in COVID-19 pandemic. *Human Systems Management*, (Preprint), 1-15.
- Aifuwa, H. O., Saidu, M., & Aifuwa, S. A. (2020). Coronavirus pandemic outbreak and firms performance in Nigeria. *Management and Human Resources Research*. 9(4), 1-11.
- Alekseev, G., Amer, S., Gopal, M., Kuchler, T., Schneider, J. W., Stroebel, J., & Wernerfelt, N. (2022). The Effects of COVID-19 on US small businesses: Evidence from owners, managers, and employees. *Management Science*, 1-19.
- Alekseev, G., Amer, S., Gopal, M., Kuchler, T., Schneider, J. W., Stroebel, J., & Wernerfelt, N. C. (2020). *The effects of COVID-19 on Us small businesses: Evidence from owners, managers, and employees* (No. w27833). National Bureau of Economic Research.
- Alonso, A. D., Kok, S. K., Bressan, A., O'Shea, M., Sakellarios, N., Koresis, A., ... & Santoni, L. J. (2020). COVID-19, aftermath, impacts, and hospitality firms: An international perspective. *International journal of hospitality management*, 91, 102654.
- Anwar, G., & Abdullah, N. N. (2021). The impact of Human resource management practice on Organizational performance. *International journal of Engineering, Business and Management (IJEEM)*, 5.
- Armstrong, C. E., & Shimizu, K. (2007). A review of approaches to empirical research on the resource-based view of the firm. *Journal of management*, 33(6), 959-986.

- Arndt, H. W. (2015). *Economic development*. University of Chicago Press.
- Asteriou, D., & Spanos, K. (2019). The relationship between financial development and economic growth during the recent crisis: Evidence from the EU. *Finance Research Letters*, 28, 238-245.
- Aulenbacher, B., Décieux, F., & Riegraf, B. (2018). Capitalism goes care: elder and child care between market, state, profession, and family and questions of justice and inequality. *Equality, Diversity and Inclusion: An International Journal*.
- Ayandibu, A. O., & Houghton, J. (2017). The role of Small and Medium Scale Enterprise in local economic development (LED). *Journal of Business and Retail Management Research*, 11(2).
- Ball, R., & Pratt, A. C. (Eds.). (2018). *Industrial property: policy and economic development*. Routledge.
- Barichello, R. (2020). The COVID-19 pandemic: Anticipating its effects on Canada's agricultural trade. *Canadian Journal of Agricultural Economics/Revue canadienne d'agroeconomie*, 68(2), 219-224.
- Bartik, A. W., Bertrand, M., Cullen, Z. B., Glaeser, E. L., Luca, M., & Stanton, C. T. (2020). *How are small businesses adjusting to COVID-19? Early evidence from a survey* (No. w26989). National Bureau of Economic Research.
- Bartik, A. W., Bertrand, M., Cullen, Z. B., Glaeser, E. L., Luca, M., & Stanton, C. T. (2020). *How are small businesses adjusting to COVID-19? Early evidence from a survey* (No. w26989). National Bureau of Economic Research.
- Bayat, G. (2020). The Effects of COVID-19 on the Tourism Sector and Hotel Businesses: The Case of Marmaris. *Igdir University Journal of Social Sciences*, (23).
- Beale, C. M., Lennon, J. J., Yearsley, J. M., Brewer, M. J., & Elston, D. A. (2010). Regression analysis of spatial data. *Ecology letters*, 13(2), 246-264.
- Beck, M. J., & Hensher, D. A. (2020). Insights into the impact of COVID-19 on household travel and activities in Australia—The early days of easing restrictions. *Transport policy*, 99, 95-119.

- Beins, B. C. (2017). *Research method: A tool for life*. Cambridge University Press.
- Bennedsen, M., Larsen, B., Schmutte, I., & Scur, D. (2020). *Preserving job matches during the COVID-19 pandemic: firm-level evidence on the role of government aid* (No. 588). GLO Discussion Paper.
- Bercu, B., & Proïa, F. (2013). A sharp analysis on the asymptotic behavior of the Durbin–Watson statistic for the first-order autoregressive process. *ESAIM: Probability and Statistics*, *17*, 500-530.
- Bian, Z., Zuo, F., Gao, J., Chen, Y., Venkata, S. S. C. P., Bernardes, S. D., ... & Wang, J. (2021). Time lag effects of COVID-19 policies on transportation systems: A comparative study of New York City and Seattle. *Transportation Research Part A: Policy and Practice*, *145*, 269-283.
- Bititci, U., Garengo, P., Dörfler, V., & Nudurupati, S. (2012). Performance measurement: challenges for tomorrow. *International journal of management reviews*, *14*(3), 305-327.
- Bostic, T. J., McGartland Rubio, D., & Hood, M. (2000). A validation of the subjective vitality scale using structural equation modeling. *Social indicators research*, *52*(3), 313-324.
- Brancaccio, E., Garbellini, N., & Giammetti, R. (2018). Structural labour market reforms, GDP growth and the functional distribution of income. *Structural Change and Economic Dynamics*, *44*, 34-45.
- Brueckner, M., & Vespignani, J. (2021). COVID-19 Infections and the Performance of the Stock Market: An Empirical Analysis for Australia. *Economic Papers: A journal of applied economics and policy*, *40*(3), 173-193.
- Chatterjee, S., & Simonoff, J. S. (2013). *Handbook of regression analysis*. John Wiley & Sons.
- Chatterjee, S., Rana, N. P., & Dwivedi, Y. K. (2021). How does business analytics contribute to organisational performance and business value? A resource-based view. *Information Technology & People*.



- Cicea, C., Popa, I., Marinescu, C., & Cătălina Ștefan, S. (2019). Determinants of SMEs' performance: evidence from European countries. *Economic research-Ekonomska istraživanja*, 32(1), 1602-1620.
- CSSEGIS and Data (2021). COVID-19 Data Repository by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University. Retrived from <https://github.com/CSSEGISandData/COVID-19> on 27 August 2022.
- Dai, R., Feng, H., Hu, J., Jin, Q., Li, H., Wang, R., ... & Zhang, X. (2021). The impact of COVID-19 on small and medium-sized enterprises (SMEs): Evidence from two-wave phone surveys in China. *China Economic Review*, 67, 101607.
- Davidsson, P., & Delmar, F. (2017). Hunting for new employment: The role of high growth firms. In *Small firms and economic development in developed and transition economies: A reader* (pp. 7-19). Routledge.
- Demeke, B., & Tao, C. (2020). Concept & Perspectives of Organizational Performance Measurement: Literature Review. *International Journal of Academic Multidisciplinary Research (IJAMR)*, 4(8), 89-96.
- Demeke, B., & Tao, C. (2020). Concept & Perspectives of Organizational Performance Measurement: Literature Review. *International Journal of Academic Multidisciplinary Research (IJAMR)*, 4(8), 89-96.
- Derbali, A., & Jamel, L. (2018). Determinants of performance of Tunisia insurance companies: Case of life insurance. *International Journal of Productivity and Quality Management*, 24(4), 531-542.
- Dörr, J. O., Licht, G., & Murmann, S. (2021). Small firms and the COVID-19 insolvency gap. *Small Business Economics*, 1-31.
- Dörr, J. O., Murmann, S., & Licht, G. (2021). The COVID-19 insolvency gap: First-round effects of policy responses on SMEs. *ZEW-Centre for European Economic Research Discussion Paper*, (21-018).
- Engle, S., Stromme, J., & Zhou, A. (2020). Staying at home: mobility effects of covid-19. Available at SSRN 3565703.
- Fitriasari, F. (2020). How do Small and Medium Enterprise (SME) survive the COVID-19 outbreak?. *Jurnal Inovasi Ekonomi*, 5(02).

- Gerald, E., Obianuju, A., & Chukwunonso, N. (2020). Strategic agility and performance of small and medium enterprises in the phase of Covid-19 pandemic. *International Journal of Financial, Accounting, and Management*, 2(1), 41-50.
- Groenewegen, J., Hardeman, S., & Stam, E. (2021). Does COVID-19 state aid reach the right firms? COVID-19 state aid, turnover expectations, uncertainty and management practices. *Journal of Business Venturing Insights*, 16, e00262.
- Haneberg, D. H. (2021). How combinations of network participation, firm age and firm size explain SMEs' responses to COVID-19. *Small Enterprise Research*, 1-18.
- Heo, M., Kim, N., & Faith, M. S. (2015). Statistical power as a function of Cronbach alpha of instrument questionnaire items. *BMC medical research methodology*, 15(1), 1-9.
- Hoque, Z. (2004). A contingency model of the association between strategy, environmental uncertainty and performance measurement: impact on organizational performance. *International business review*, 13(4), 485-502.
- Hult, G. T. M., Ketchen, D. J., Griffith, D. A., Chabowski, B. R., Hamman, M. K., Dykes, B. J., ... & Cavusgil, S. T. (2008). An assessment of the measurement of performance in international business research. *Journal of international business studies*, 39(6), 1064-1080.
- Humphries, J. E., Neilson, C., & Ulyssea, G. (2020). The evolving impacts of COVID-19 on small businesses since the CARES Act.
- Hyvönen, J. (2007). Strategy, performance measurement techniques and information technology of the firm and their links to organizational performance. *Management accounting research*, 18(3), 343-366.
- Irawan, A. W., Dwisona, D., & Lestari, M. (2020). Psychological impacts of students on online learning during the pandemic COVID-19. *KONSELI: Jurnal Bimbingan dan Konseling (E-Journal)*, 7(1), 53-60.
- Kaplan, R. (1984). *Yesterday's accounting undermines production*. Harvard Business Review, July/August, 95–101.

- Katz, D. (1978). *The social psychology of organizations*.
- Kehoe, T. J., Ruhl, K. J., & Steinberg, J. B. (2018). Global imbalances and structural change in the United States. *Journal of Political Economy*, 126(2), 761-796.
- Kleinbaum, D. G., Kupper, L. L., Nizam, A., & Rosenberg, E. S. (2013). *Applied regression analysis and other multivariable methods*. Cengage Learning, Australia.
- Kniffin, K. M., Narayanan, J., Anseel, F., Antonakis, J., Ashford, S. P., Bakker, A. B., ... & Vugt, M. V. (2021). COVID-19 and the workplace: Implications, issues, and insights for future research and action. *American Psychologist*, 76(1), 63.
- Lee, C. (2021). Factors influencing the credibility of performance measurement in nonprofits. *International Review of public Administration*, 26(2), 156-174.
- Lockett, A., Thompson, S., & Morgenstern, U. (2009). The development of the resource-based view of the firm: A critical appraisal. *International journal of management reviews*, 11(1), 9-28.
- Lupton, T. (1977). *Organizational Behavior and Performance*. Macmillan.
- Macro Trends (2022). Zimbabwe GDP 1960-2022. Retrieved from <https://www.macrotrends.net/countries/ZWE/zimbabwe/gdp-gross-domestic-product> on 27 August 2022.
- Madhani, P. M. (2009). Resource based view (RBV) of competitive advantages: Importance, issues and implications. *KHOJ Journal of Indian Management Research and Practices*, 1(2), 2-12.
- Matar, A., Al-Rdaydeh, M., Al-Shannag, F., & Odeh, M. (2018). Factors affecting the corporate performance: Panel data analysis for listed firms in Jordan. *Academy of Accounting and Financial Studies Journal*, 22(6), 1-10.
- Mazza, C., & Quattrone, P. (2017). Living in a World of Foam: Global Ideas, Bubbles, Institutions and the Fairy Tale of Business Education. In *The Future of University Education* (pp. 111-121). Palgrave Macmillan, Cham.
- Miles, J. (2014). Tolerance and variance inflation factor. *Wiley statsref: statistics reference online*.

- Nason, R. S., & Wiklund, J. (2018). An assessment of resource-based theorizing on firm growth and suggestions for the future. *Journal of management*, 44(1), 32-60.
- Neffke, F., Hartog, M., Boschma, R., & Henning, M. (2018). Agents of structural change: The role of firms and entrepreneurs in regional diversification. *Economic Geography*, 94(1), 23-48.
- Nguyen, H. V., Tran, H. X., Le Van Huy, X. N. N., Do, M. T., & Nguyen, N. (2020). Online book shopping in Vietnam: the impact of the COVID-19 pandemic situation. *Publishing Research Quarterly*, 1.
- Obi, S. E., Yunusa, T., Ezeogueri-Oyewole, A. N., Sekpe, S. S., Egwemi, E., & Isiaka, A. S. (2020). The socio-economic impact of covid-19 on the economic activities of selected states in Nigeria. *Indonesian Journal of Social and Environmental Issues (IJSEI)*, 1(2), 39-47.
- Odusanya, I. A., Yinusa, O. G., & Ilo, B. M. (2018). Determinants of firm profitability in Nigeria: Evidence from dynamic panel models. *SPOUDAI-Journal of Economics and Business*, 68(1), 43-58.
- Osborne, J. W., & Overbay, A. (2004). The power of outliers (and why researchers should always check for them). *Practical Assessment, Research, and Evaluation*, 9(1), 6.
- Papadopoulos, T., Baltas, K. N., & Balta, M. E. (2020). The use of digital technologies by small and medium enterprises during COVID-19: Implications for theory and practice. *International Journal of Information Management*, 55, 102192.
- Peretto, P. F. (2015). From Smith to Schumpeter: A theory of take-off and convergence to sustained growth. *European Economic Review*, 78, 1-26.
- Peterson, W., Gijssbers, G., & Wilks, M. (2003). *An organizational performance assessment system for agricultural research organizations: concepts, methods, and procedures* (No. 2126-2021-1308).
- Rababah, A., Al-Haddad, L., Sial, M. S., Chunmei, Z., & Cherian, J. (2020). Analyzing the effects of COVID-19 pandemic on the financial performance of Chinese listed companies. *Journal of Public Affairs*, 20(4), e2440.

- Rehman, S. U., Mohamed, R., & Ayoup, H. (2019). The mediating role of organizational capabilities between organizational performance and its determinants. *Journal of Global Entrepreneurship Research*, 9(1), 1-23.
- Rehman, S. U., Mohamed, R., & Ayoup, H. (2019). The mediating role of organizational capabilities between organizational performance and its determinants. *Journal of Global Entrepreneurship Research*, 9(1), 1-23.
- Richard, P. J., Devinney, T. M., Yip, G. S., & Johnson, G. (2009). Measuring organizational performance: Towards methodological best practice. *Journal of management*, 35(3), 718-804.
- Robbins, S. (2005). *Organizational Behavior at Work*. McGraw Hill Book Company, New York., Chapter 1.
- Rouse, M. J., & Daellenbach, U. S. (2002). More thinking on research methods for the resource-based perspective. *Strategic management journal*, 23(10), 963-967.
- Sadiq, M., Othman, Z., & Keong, O. C. (2019). A study of interaction effects of political influences and earnings management on organisational performance. *Asian Economic and Financial Review*, 9(5), 642-653.
- Sedgwick, P. (2013). Convenience sampling. *Bmj*, 347.
- Sedlacek, P., & Sterk, V. (2020). Startups and employment following the COVID-19 pandemic: A calculator.
- Sharipov, K. (2020). The Importance Of Quality Management In Innovative-Investment Development Of Industrial Enterprises Of Uzbekistan (On The Example Of Andizhan Automobile Industry). *Архив научных исследований*, (27).
- Shen, H., Fu, M., Pan, H., Yu, Z., & Chen, Y. (2020). The impact of the COVID-19 pandemic on firm performance. *Emerging Markets Finance and Trade*, 56(10), 2213-2230.
- Sintema, E. J. (2020). Effect of COVID-19 on the performance of grade 12 students: Implications for STEM education. *Eurasia Journal of Mathematics, Science and Technology Education*, 16(7), em1851.

- Song, H. J., Yeon, J., & Lee, S. (2021). Impact of the COVID-19 pandemic: Evidence from the US restaurant industry. *International Journal of Hospitality Management*, 92, 102702.
- Song, H. J., Yeon, J., & Lee, S. (2021). Impact of the COVID-19 pandemic: Evidence from the US restaurant industry. *International Journal of Hospitality Management*, 92, 102702.
- Spencer, X., Joiner, T. A., & Salmon, S. (2009). Differentiation Strategy, Performance Measurement Systems and Organizational Performance: Evidence from Australia. *International journal of business*, 14(1).
- Stratton, S. J. (2021). Population Research: Convenience Sampling Strategies. *Prehospital and disaster Medicine*, 36(4), 373-374.
- Tangthong, S. (2020). The Effect Of Covid-19 On The Organizational Performance Of Employees In Thailand. *PalArch's Journal of Archaeology of Egypt/Egyptology*, 17(10), 2099-2118.
- Taouab, O., & Issor, Z. (2019). Firm performance: Definition and measurement models. *European Scientific Journal*, 15(1), 93-106.
- Tu, Y., Li, D., & Wang, H. J. (2021). COVID-19-induced layoff, survivors' COVID-19-related stress and performance in hospitality industry: The moderating role of social support. *International Journal of Hospitality Management*, 95, 102912.
- Udofia, E. E., Adejare, B. O., Olaore, G. O., & Udofia, E. E. (2021). Supply disruption in the wake of COVID-19 crisis and organisational performance: mediated by organisational productivity and customer satisfaction. *Journal of Humanities and Applied Social Sciences*.
- Urazbaeva, A., Voytenkov, V., & Groznykh, R. (2020). The analysis of COVID-19 impact on the internet and telecommunications service sector through modelling the dependence of shares of Russian companies on the American stock market. *R-Economy*, 6(3), 162-170.
- Wanasida, A. S., Bernarto, I., Sudibjo, N., & Purwanto, A. (2021). The Role of Business Capabilities in Supporting Organization Agility and Performance

- During the COVID-19 Pandemic: An Empirical Study in Indonesia. *The Journal of Asian Finance, Economics and Business*, 8(5), 897-911.
- Wen, F., Xiao, J., Xia, X., Chen, B., Xiao, Z., & Li, J. (2019). Oil prices and chinese stock market: Nonlinear causality and volatility persistence. *Emerging Markets Finance and Trade*, 55(6), 1247-1263.
- Wilczyńska, A., Batorski, D., & Torrent-Sellens, J. (2020). Precarious Knowledge Work? The Combined Effect of Occupational Unemployment and Flexible Employment on Job Insecurity. *Journal of the Knowledge Economy*, 11(1), 281-304.
- Williams, C. (2007). Research methods. *Journal of Business & Economics Research (JBER)*, 5(3).
- Wong, C. Y., & Karia, N. (2010). Explaining the competitive advantage of logistics service providers: A resource-based view approach. *International Journal of Production Economics*, 128(1), 51-67.
- Yang, L., Jaffe, S., Holtz, D., Suri, S., Sinha, S., Weston, J., ... & Teevan, J. (2020). How work from home affects collaboration: a large-scale study of information workers in a natural experiment during COVID-19. *arXiv preprint arXiv:2007.15584*.
- Zou, P., Huo, D., & Li, M. (2020). The impact of the COVID-19 pandemic on firms: a survey in Guangdong Province, China. *Global health research and policy*, 5(1), 1-10.

## APPENDICES

### Appendix A

#### Research Questionnaire

NEAR EAST UNIVERSITY

DEPARTMENT OF BUSINESS ADMINISTRATION

### THE EFFECTS OF COVID 19'S INDUCED CHALLENGES ON ORGANISATIONAL PERFORMANCE: A CASE STUDY OF INDUSTRIAL COMPANIES IN ZIMBABWE

Dear Participant

I invite you to take part in a survey being conducted in partial fulfilment of the requirements of a Master's degree in Business Administration and seek your views on examining the effects of Covid 19's induced challenges on organisational performance. This encompasses determining the nature of challenges triggered by Covid 19 and how they have influenced industrial companies' performance.

While you will not experience any direct benefits from participation, information collected in this study may benefit the profession of Business Administration in the future by better understanding how they can deal with structural problems like Covid and boost their operational performance.

Participation in this survey is highly valued but voluntary. You are free to withdraw consent at any time. We will protect your anonymity and the confidentiality of your response to the fullest possible extent within the limits of the law.

Please note that your response is private and confidential. Individual respondents will not be identified in any data or reports and survey responses will not be linked with enrolment records. The survey should take about 10 minutes to complete.

By completing and submitting this survey, you are indicating your consent to participate in the study. Your participation is appreciated.

If you have any questions about this survey or would like further information, please contact me for further information, or you may contact the Thesis Supervisor, Prof. Dr. Şerife EYÜPOĞLU at the Near East University using the details provided below.

Thank you for considering your involvement in this survey.

Yours sincerely

Lorraine Mukwaira

Student No:

Master's Student, Near East University

Department of Business Administration

Email: [lolomukwa1@yahoo.co.uk](mailto:lolomukwa1@yahoo.co.uk)

Prof. Dr. Şerife EYÜPOĞLU

Advisor, Near East University

Department of Business Administration

Email: [serife.eyupoglu@neu.edu.tr](mailto:serife.eyupoglu@neu.edu.tr)



**SECTION ONE: DEMOGRAPHY SECTION**

1. Gender	
<input type="checkbox"/> Male	<input type="checkbox"/> Female
2. Type of industry	
<input type="checkbox"/> Manufacturing	<input type="checkbox"/> Mining
<input type="checkbox"/> Health care	<input type="checkbox"/> Education
<input type="checkbox"/> Telecommunications	<input type="checkbox"/> Transport
<input type="checkbox"/> Food and agriculture	<input type="checkbox"/> Construction
<input type="checkbox"/> Energy	
3. How many employees are there in your company?	
<input type="checkbox"/> 50 and below	<input type="checkbox"/> 51–100
<input type="checkbox"/> 101–300	<input type="checkbox"/> 301–500
<input type="checkbox"/> 501–1000	<input type="checkbox"/> 1001–4999
<input type="checkbox"/> 5000 and above	
4. In your own opinion, what is the size of your company?	
<input type="checkbox"/> Small	<input type="checkbox"/> Medium
<input type="checkbox"/> Large	
5. To what extent does have the operations of your firm been affected by this pandemic?	
<input type="checkbox"/> Very serious impact, leading to serious difficulties in business operations and bankruptcy	<input type="checkbox"/> Great impact: operations barely maintained
<input type="checkbox"/> Small impact, some difficulties in business operations, but overall stability	<input type="checkbox"/> No significant impact
<input type="checkbox"/> Positive impact, providing new opportunities for development	
6. What are the main operating pressures that your firm is currently facing? Tick where applicable.	
<input type="checkbox"/> Employee salaries, insurance	<input type="checkbox"/> Rent (Buildings, Equipment)
<input type="checkbox"/> Repayment of loans	<input type="checkbox"/> Payment of accounts payable
<input type="checkbox"/> Cancellation of orders	
7. What is the clearest impact of the pandemic on your firm's research and development, and innovation? Tick where applicable.	
<input type="checkbox"/> The research and development process of launching a new product was negatively affected.	
<input type="checkbox"/> The company is unable to recruit suitable research and development personnel.	

<input type="checkbox"/> The company is unable to cooperate with other departments to carry out part of the research and development work.	
<input type="checkbox"/> The company is now determined to invest more in technological innovation after being better aware of the firm's self-development problems during the pandemic	
8. How has the pandemic affected recruitment? Tick where applicable.	
<input type="checkbox"/> Increase in labour costs	<input type="checkbox"/> Unable to find a suitable recruitment channel
<input type="checkbox"/> Postponement or cancellation of the existing recruitment plan	<input type="checkbox"/> Transition to online recruitment
9. What is the clearest impact of the pandemic on your firm's research and development, and innovation? Tick where applicable.	
<input type="checkbox"/> Increased labour costs.	<input type="checkbox"/> Reduced greatly by 30–50%.
<input type="checkbox"/> Reduced slightly by 10–30%.	<input type="checkbox"/> Remained basically the same.
<input type="checkbox"/> Increased greatly by 30–50%.	
10. Which of the following Covid 19 induced challenge has affected you the most? Tick where applicable.	
<input type="checkbox"/> Workers' pay cuts.	<input type="checkbox"/> Reduced working hours
<input type="checkbox"/> Reduced business operational shifts	<input type="checkbox"/> Employee retention.
<input type="checkbox"/> Business lockdown.	
11. In what way has this pandemic affected your company in the first quarter of 2020?? Tick where applicable.	
<input type="checkbox"/> Made profits.	<input type="checkbox"/> Made normal profits/break even.
<input type="checkbox"/> Incurred losses.	<input type="checkbox"/> Incurred serious losses.
<input type="checkbox"/> Went bankrupt.	
12. How long can your existing cash flow sustain your business? Tick where applicable.	
<input type="checkbox"/> Less than a month	<input type="checkbox"/> 1–3 months
<input type="checkbox"/> 4–5 months	<input type="checkbox"/> Over 6 months <input type="checkbox"/> Cannot tell
13. What is your expected revenue change in the next three months amid the relaxation in lockdown and travel restrictions? Tick where applicable.	
<input type="checkbox"/> Increased by less than 10%.	<input type="checkbox"/> Increased by more than 10%.
<input type="checkbox"/> No change	<input type="checkbox"/> Decreased by less than 10%.
<input type="checkbox"/> Decreased by more than 10%.	<input type="checkbox"/> Cannot tell
14. Which self-help measure has your firm taken so far? Tick where applicable.	
<input type="checkbox"/> Applied for financing.	<input type="checkbox"/> Increased online operations.
<input type="checkbox"/> Cut wages, salaries and jobs.	<input type="checkbox"/> Implemented a remote/digital office.

## SECTION TWO: INFORMATIVE SECTION

This section contains statements that examine the prevalence of Covid 19 and its effects on companies, especially on their performance. Please tick your response according to the following scale:

1	2	3	4	5
Strongly disagree	Disagree	Neutral	Agree	Strongly agree

<b>Covid 19</b>		1	2	3	4	5
15	Covid 19 restrictions implemented by governments have led to a decline in companies' operational activities.					
16	Covid 19 lockdown measures have made it difficult for companies to operate.					
17	A lot of companies closed operations since Covid 19 started.					
18	The number of newly registered companies has declined significantly.					
19	COVID-19 restrictions put a strain on the financial situation of industrial companies.					
20	Several companies suffered from contract breach risk because of Covid 29.					
21	There has been a huge decline in external demand following the occurrence of Covid 19.					
22	The problem of raw material shortages has increased severely because of Covid 19.					
23	Numerous companies have been experiencing supply chain disruptions amid the occurrence Covid 19.					
24	Companies continue to experience logistics disruptions because of Covid 19.					
25	Employees are less willing to commit to companies because of the fear of contracting Covid 19.					
26	Company employees have experienced massive pay cuts since the start of the pandemic.					
27	The number of working hours worked by an ordinary person has been reduced for health and safety reasons.					
28	Businesses' operational shifts have declined significantly.					
<b>Organisational performance</b>		1	2	3	4	5
29	Covid 19 health and safety protocols have caused a huge increase in companies' operational expenses.					
30	The company's sales volumes have remained relatively low amid the unending challenges caused by Covid 19.					
31	The effects of Covid 19 on companies were significantly different from one company to the other.					

32	Some companies performed better than others during Covid 19.						
33	It has proved difficult to gain a huge market share during Covid 19.						
34	The company's ability to grow and expand operations has been restricted by Covid 19.						
35	Productivity levels have remained steadily low amid the decline in the number of recorded Covid 19 cases.						
36	Our company has been experiencing a massive decline in market share because of lockdown measures introduced by the government.						
37	Work-at-home strategies have led to a significant decline in employee productivity.						
38	A lot of employees were retrenched/laid off during the start of the Covid 19 pandemic.						
39	The company is no longer investing in employee training and development programs.						
40	The company's participation in corporate social responsibility activities has been negatively affected by Covid 19.						
41	The company is now limiting its environmental protection programs to reduce its operational expenses.						
42	Marketing programs have intensively switched to online platforms.						
43	This pandemic will affect our company's development in the first quarter of 2022.						
44	I expect the company to start performing following the relaxation of lockdown and travelling rules.						
45	Employees are not prepared to go an extra mile for the company.						
46	Absenteeism and turnover in my organization relative to competition are very low.						
47	The reputation of my organization in eyes of the customers has declined.						

Thank you for your participation

**Appendix B****Permissions Regarding the Use of Scales****BİLİMSEL ARAŞTIRMALAR ETİK KURULU**

11.05.2022

Dear Lorraine Mukwaira

Your application titled **“The Effects of Covid-19’s Induced Challenges on Organisational Performance: A Case Study of Industrial Companies in Zimbabwe”** with the application number NEU/SS/2022/1310 has been evaluated by the Scientific Research Ethics Committee and granted approval. You can start your research on the condition that you will abide by the information provided in your application form.

Assoc. Prof. Dr. Direnç Kanol

Rapporteur of the Scientific Research Ethics Committee

**Note:** If you need to provide an official letter to an institution with the signature of the Head of NEU Scientific Research Ethics Committee, please apply to the secretariat of the ethics committee by showing this document.

## Appendix C

### Turnitin Similarity Report

THE EFFECTS OF COVID 19'S INDUCED CHALLENGES ON ORGANISATIONAL PERFORMANCE: A CASE STUDY OF INDUSTRIAL COMPANIES IN ZIMBABWE by Lorraine Muwaira

#### ORIGINALITY REPORT

<b>7</b> %	<b>5</b> %	<b>4</b> %	%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

#### PRIMARY SOURCES

<b>1</b>	<a href="http://ghrp.biomedcentral.com">ghrp.biomedcentral.com</a> Internet Source	<b>1</b> %
<b>2</b>	<a href="http://athenaeum.libs.uga.edu">athenaeum.libs.uga.edu</a> Internet Source	<b>1</b> %
<b>3</b>	<a href="http://link.springer.com">link.springer.com</a> Internet Source	<b>&lt;1</b> %
<b>4</b>	Tanveer Ahmed, Muhammad Shahid Khan, Duangkamol Thitivesa, Yananda Siraphatthada, Tawat Phumdara. "Impact of employees engagement and knowledge sharing on organizational performance: Study of HR challenges in COVID-19 pandemic", Human Systems Management, 2020 Publication	<b>&lt;1</b> %
<b>5</b>	<a href="http://oauife.edu.ng">oauife.edu.ng</a> Internet Source	<b>&lt;1</b> %
<b>6</b>	<a href="http://www.mdpi.com">www.mdpi.com</a> Internet Source	<b>&lt;1</b> %