



THE MEDIATING EFFECT OF SOCIAL MEDIA ADOPTION ON THE RELATIONSHIP
BETWEEN ENTREPRENEURIAL ORIENTATION AND PERFORMANCE OF
MICRO, SMALL AND MEDIUM ENTERPRISES IN CENTRAL JAMAICA DURING THE
COVID- 19

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This thesis by Dwayne Anthony Blidgen has been approved by the committee members below, who recommend it be accepted by the faculty of Unicaf University in Zambia in partial fulfilment of requirements for the degree of

Doctorate of Business Administration

Thesis Committee:

Dr Bilal Talal Jibai, Supervisor

Dr Nathan Musonda, Chair

Prof. Vincent Onodugo, External examiner

Dr William Makumbe, Internal examiner

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Dwayne Anthony Blidgen

Unicaf University in Zambia

Micro, small, and medium enterprises (MSMEs) are known as the main economic driver in most countries' economic growth. However, the COVID-19 pandemic caused a major global disruption that impacted this sector to the point where survival became critical to navigate the turbulent environment. The study set out to investigate social media adoption and entrepreneurial orientation impact on MSMEs during the pandemic. Social media adoption outlines how firms utilize the various digital platforms, whereas entrepreneurial orientation is the ability of a business to initiate the processes and use the resources to create sustainable and variable means of survival. A quantitative approach was used where 154 MSMEs in central Jamaica participated through the purposive non-probability sampling technique, with minimum criteria characteristic of operating more than two years pre-covid and should be registered. The Partial Least Squares Structural Equation Modelling was used for data analysis; the model produced beta, t-test analysis, and p-value results.

Findings revealed that entrepreneurial orientation (EO) has no significant relation to MSMEs performance; however, EO being mediated by social media adoption indicates the full mediating effect of the relationship between EO, social media adoption, and MSMEs performance. The research reveals that entrepreneurial orientation can be triggered by social media adoption when utilized by MSMEs in crisis situations. All the dimensions of the Technology-Organization-Environment (TOE) framework have a positive relation to social media adoption, which impacts overall performance. The findings hold expectations of adding theoretical and practical implications to MSMEs owners as to how to remain viable in crisis situations.

Declaration

I declare that this thesis was composed by myself, that the work contained herein is my own except where explicitly stated otherwise in the text, and that this work has not been submitted for any other degree or professional qualification except as specified. Parts of this work have been published in the ‘Small Business International Review’ journal.

AI Acknowledgement

I acknowledge the use of QuillBot (<https://quillbot.com/grammar>) to correct grammar throughout the thesis completed on January 7, 2025.

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List of Abbreviations

MSME	Micro, Small and Medium Enterprises
SME	Small and Medium Enterprise
SMA	Social Media Adoption
SM	Social Media
EO	Entrepreneurial Orientation
PLS SEM	Partial Least Square Structural Equation Modelling
CB SEM	Covariance-Based Structural Equation Modelling
RBV	Resource-Based View
TOE	Technology Organization and Environment
COVID	Coronavirus disease
PIOJ	Planning Institute of Jamaica
DBJ	Development Bank of Jamaica
ICT	Information Communication Technology
VIF	Variance Inflation Factors
VAF	Variance Accounted For
HOC	Higher Order Construct
LOC	Lower Order Construct
HTMT	Heterotrait Monotrait Ratio of correlations
AVE	Average Variance Extracted
CTA	Confirmatory Tetrad Analysis
CR	Composite Reliability
R^2	Coefficient of Determination
F^2	Effect size
Q^2	Predictive relevance
IP	Internet Protocol
TC	Technology context
OR	Organization context
EU	Environmental Uncertainty
FP	Firms performance

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CHAPTER 1: INTRODUCTION

The COVID-19 pandemic created an environment of chaos in numerous ways where economies were affected. The sector of micro, small, and medium enterprises in literature and practically have proven to be the backbone of economics around the world (Hoque & Salam 2019). It is essential that this sector continue to chart a new path of how to survive and be sustainable due to the disruptions in supply chain and business environment as governments embarked on lockdowns and restriction movement rules. The consideration in Jamaica of a microbusiness is defined as posing yearly sales revenue of maximum Jamaica Dollar (JMD) \$15 million and employing up to five (5) workers. Small enterprises generate annual sales of JMD\$15 million to J\$75 million, and the number of workers is between 6 and 20 people. Medium businesses, however, generate sales earnings of JDM \$7 million to approximately JMD \$425 million and a workforce of 21 to 50 people (JMIIC 2018).

Surveys carried out by the Inter-American Development Bank within the Caribbean found that 90% of the firms indicated that sales went down by 33% on average of all sales, and services and retail businesses experienced the highest reduction in sales (Acevedo et al., 2021; Tennant, 2021 (Jamaica). The International Trade Centre (ITC) survey shows that 55% of small and medium enterprises responded that they were greatly affected by the pandemic, 26% of MSMEs were forced to close within the three months, whereas 9% of larger firms find themselves in a comparative situation. As a result, the MSMEs were more affected than the bigger, more established companies. There were challenges that hindered growth and development, especially during the global pandemic of COVID 19. According to Alon et al. (2020), the coronavirus pandemic is one of the most notable and significant crises in modern

times. The global pandemic affected businesses in all industries due to lockdowns and movement restrictions. The business enterprises did encounter massive hurdles as they thrived to grow during the global crisis known as the COVID-19 pandemic. According to Alon et al. (2020), the coronavirus pandemic is one of modern history's most profound disasters. This worldwide pandemic negatively impacted many areas of life, and due to the lockdowns and the mobility restrictions imposed on businesses, it made it extremely challenging for businesses to conduct face-to-face operations, affecting overall performance level and sustainability. Social distancing created an increase in the way businesses were operated, and which meant that online transactions increased as interchange of information was more encouraged and new ways of operating of businesses were ensued by these operators.

The change in operation and the use of online platforms facilitated flexible communication channels and aided organizations in disseminating updates about how operations can be conducted (Sonnier 2011). Social media has become relevant to MSMEs as it is a way for these businesses to maintain their presence and to show their clients that they are still available to provide goods and services. Social media adoption in business has demonstrated to be a flexible, reliable asset that aids businesses in critical departments such as research and development, customer service, and how business processes are done. The adaptive nature of MSMEs to change quickly with the pandemic situation was essential for survival. Social media undoubtedly created insights about customers, as information and data were provided by these customers using the various platforms. As the business environment was rapidly changing it became essential for MSMEs to possess the required tools in order to respond to the needs of customers (Tajudenn et al 2018)

Fan et al. (2021) postulate that entrepreneurial orientation (EO) is crucial for MSMEs survival in the present turbulent economic environment. As a result, it was essential for this sector to have engaged in the implementation of digital technology as the catalyst to encourage entrepreneurial activities. Wiklund and Shepherd (2004) posit that in order for MSMEs to thrive, they should adopt an entrepreneurial mindset, and one key way of achieving such is through social media, which serves as an agent for adopting these practices. With respect to social media adoption and MSMEs growth and development output, research done demonstrated that social media utilization does influence how enterprises function (Ainin et al. 2015). It is posited that micro, small, and medium enterprises obtain various benefits through the implementation of social media utilization.

Three underpinning concepts of EO creativity, proactivity, and risk-taking were necessary for MSMEs to embrace an entrepreneurial mindset, and these elements were essential for businesses to navigate the uncertainties and interruptions of the pandemic. Innovation at a time of the pandemic was for MSMEs to revisit their business models and develop new ways of adapting to the changing business environment. Being proactive helped these enterprises to be able to identify the opportunities, understand changing market trends, and to be prepared to seize the opportunities while maintaining their competitive edge. The uncertainties of the environment during the COVID-19 pandemic led businesses to take risks with their business strategies and to understand the risks that may come with each challenge and also the possible rewards. Entrepreneurial orientation has been known to aid small businesses grow and flourish when faced with difficult situations and help them to manage the failures (Covin & Slevin 1989). Additionally, entrepreneurial orientation is a way of improving MSMEs in finding their distinctive value and setting themselves apart from the competition (Wiklund & Shepherd 2005).

There is also the correlation between entrepreneurial mindset and performance, as EO promotes innovativeness, which aids the sustainability of businesses, as shown in the EO literature.

Prioritizing entrepreneurial orientation during the pandemic was essential if the enterprises in the MSME sector were to survive the crisis. Entrepreneurial orientation created the need for adaptability of MSMEs as market conditions change rapidly, and these businesses must be ready to seize the opportunities in challenging times. EO is critical to ensure that MSMEs are effective in a crisis.

Background to the problem

The pandemic impacted negatively the Jamaican economy as it did to numerous other economies around the world in March of 2020. Jamaica being severely affected, saw the Government of Jamaica embarked on new projects to support this sector by encouraging and providing avenues for training, loans and grants for businesses to be fully digitalized (MIIC2018). Whereas businesses wanted to adopt technology, it came with risk and required proactiveness and innovation to ensure success. According to Fatima and Bilal (2019), SMEs with a higher entrepreneurial orientation tend to perform better; however, due to limited resources, it created more challenges for MSMEs in central Jamaica during the COVID pandemic.

Social media platforms refer to internet-based applications rooted in the principles of Web 2.0, which allow users to create and share content (Kaplan and Haelain 2010). It is an internet platform or forum giving people access where ideas can be shared and people can interact on numerous topics (Blackshaw and Nazzaro 2004). Businesses of all sizes and industries use social media platforms to create and develop interactions with new and existing

clients (Karimi and Naghibi 2015). Social media also supports and promotes open innovation (Mount and Garcia 2014), which is closely linked to entrepreneurial orientation. According to Zahra et. al. (2008), EO represents a business's capability to leverage and use innovative ideas in order to enter new markets and remain competitive. In essence, MSMEs can benefit from social media adoption and entrepreneurial attitude in dealing with the issues surrounding the pandemic. In reality, social media can support numerous business processes, such as customer service relations, marketing, and sales of products. It is also noteworthy that entrepreneurial orientation aids creativity and risk management to aid businesses in developing the right maintenance strategies. Bruce et al. (2022) have shown that social media platforms do increase customer engagement and increase the level of customer retention. It is also accepted that MSMEs that actively engage in utilizing social media normally see an increase in their brand visibility and growth in sales revenue (Effendi et al. 2020). Social media offers an affordable commission medium for MSMEs, as most times these businesses have limited budgets.

In the case of Lumpkin and Dess (1996), EO is a set of processes, practices, and activities that lead to a company's willingness to act independently, innovate, take risks, and anticipate market opportunities. In the present reality of the COVID-19 pandemic, firms must take the risk to reinvent themselves to survive in this climate. For the MSMEs to be sustainable in a time of restricted movement and heavy quarantine, SM and EO are areas that should receive keen attention by these enterprises. According to Jiang et al. (2018), EO is a resource-intensive strategic orientation, and social media platforms could be one of the resources for support. Companies that are more EO-oriented are more inclined to adopt new technologies, such as social media (Valos et al. 2015). Social media undoubtedly have transformed human interactions and communications and have now become essential and important to businesses (Kaplan and

Haelain 2010). Hajli (2014) postulates that social media increases customer interaction and customer retention, which result in the profitability of businesses. However, Kane et al. (2014) argue that the value of SM is mainly concentrated on those companies that managed to develop sophistication and maturity in their SM activities.

Unfortunately, MSMEs are failing due to lacking infrastructure and poor technological systems compounded by the inability to adopt entrepreneurial skills (Nwachukwu 2012). Entrepreneurial orientation must not be overlooked, as adaptation of this area can aid in the development and sustainability of businesses within this time of COVID 19. Businesses that adopt EO are more likely to utilize social media to communicate with customers about products and respond to customer feedback (Valos et al., 2015), and social media is expected to drive the pace of business in MSMEs as a way to recuperate the effect of this global pandemic (Effendi et al., 2020).

Entrepreneurial orientation and social media adaptation are determinants of a performance, but that is not all. As posited by Kim and Park (2013), social media is a communication platform that aids in the achievement of organizational goals set out by companies. Nisar and Whitehead (2016) show that social media impacts a company's brand positioning, brand awareness, and customer loyalty. However, more needs to be understood and investigated about the experience of social media adaptation in MSMEs (Durkin et al. 2013). Adopting social media is not without risk, and there are uncertainties (Zahra 2018). In addition, companies that are entrepreneurially oriented are flexible and can adapt to a changing and dynamic competitive environment and exploit uncertain opportunities (Covin and Slevin 1989). As a result, firms are restructuring, and along with digital transformation, it forms an essential and critical aspect for businesses in promoting economic growth. This creates the need to further

research into strategic insights about MSMEs adaptation of both social media and entrepreneurial orientation (Qalati t. al. 2021) through the lens of COVID 19. According to Effendi et al. (2020), there needs to be more research on how different industries within the MSME sector are affected by social media and that EO is limited. They posit that further longitudinal studies should be carried out looking at the post-COVID era. Additionally, entrepreneurial orientation and social media have shown independent impact; however, little is known about how the two elements work in order to impact businesses. It is therefore necessary to have research investigate the relationship and carry out our multidimensional model (Kraus et. al., 2012). There is also the issue where not enough studies have been done looking at the different level of technical preparedness needed in MSMEs, and developing an understanding of these discrepancies can certainly aid the MSMEs. Identifying the importance of the longitudinal studies, this research can provide valuable information to owners and policymakers of the potential effects of entrepreneurial attitude and social media adoption when making strategic plans and provide deeper knowledge of how businesses can maintain their level of sustainability in a crisis. In the case of sector-specific research, this can be beneficial to businesses within the MSME sector that they can be informed as to the best strategies that may be suited for their challenges, and policymakers and government could design better tailored programmes to assist these MSMEs. These research gaps go further to show that if MSMEs know how social media adoption and entrepreneurial orientation correlate, then more businesses may employ these strategies using both elements rather than separately. Addressing the digital gap would also assist how resources are allocated, as this would determine the level of digital readiness in the various MSMEs, and as a result, programs can be properly designed to support these businesses.

The context of this research looks at the economic significance, as MSMEs are economic drivers. The MSME sector is vibrant in the country of Jamaica and has been making a significant contribution to the gross domestic product. According to the Ministry of Industry, Investment, and Commerce, this sector creates more than 80% of employment, which is considerably remarkable to the growth of the country's economy. These businesses are important in job creation and to grow the economy, especially in emerging economies such as Jamaica in a time of crisis, which makes this research necessary to provide findings that can inform government and policy makers. Globally, due to the COVID-19 pandemic, there has been disruption in every country's economic activities, and it is essential that MSMEs engineer the ideal strategies to determine how to handle this crises. This crisis threw the world into turmoil, and businesses were compelled to act quickly and make decisive decisions bearing all the risks, and entrepreneurial mindset and social media implementation were at the heart of all this making the difference. In the context of Jamaica, micro, small, and medium enterprises (MSMEs) encounter a plethora of challenges that are both internally and externally derived, as numerous operations exhibit deficiencies in marketing and operational capabilities, leadership acumen, communication proficiency, and technical expertise (Jamaica Ministry of Industry, Investment, and Commerce, 2018).

As a result, the pandemic was basically the impetus that drove digital transformation in many of these MSMEs. Therefore, the rise of emerging technologies basically impacted MSMEs, and research should be done on this to ascertain additional data regarding the effects of social media and entrepreneurial attitudes on MSMEs. It is also essential for studies to be conducted to investigate how EO operates in crisis situations with high levels of uncertainty. The TOE frame helps with decision-making about social media adoption, which created more

challenges as to how owners and managers adapted to the environment when they were forced to due to the pandemic. All of these points create the context and the importance of carrying out this study.

Statement of the Problem

One of the most notable and significant crisis in modern times is the coronavirus pandemic (Covid 19) (Alon, Farrell & Li 2020). COVID-19 has caused Micro, Small, and Medium Enterprises (MSMEs) to become the most vulnerable sector of the economic crisis (Effendi et al. 2020). There are numerous studies that have investigated crises such as economic challenges (Devece et al. 2016); disasters to include natural and disease concerns (Bresciani 2002; Fabeil et al. 2019); and also terrorism (Cook 2015). However, there remain areas of lack in literature about MSMEs and the COVID-19 pandemic as a new type of crisis where all the world was affected.

The Jamaican economy is made up primarily of micro, small, and medium businesses (MSMEs), which is approximately 97% of the official registered businesses, as the informal sector tends to be larger. This sector has contributed the most to the country's economic growth and advancement, with earnings up to a high of \$425 million annually (MIIC). The Jamaican economy is no different from those around the world, and that has been immensely impacted by the Coronavirus, which saw a forecast contraction of the economy by 5% for the fiscal year 2020 when the COVID-19 hit the world. The country saw a negative impact of inflows from remittances and other sectors such as tourism, which would normally contribute about 20% of the gross domestic product to the country's fiscal year output (IMF 2020).

The World Health Organization (WHO) announced that the Corona virus had reached a pandemic state on March 11, 2020, and ended on May 5, 2023 (Satija and Rigby, 2023). During this time, many businesses were forced to curtail operations as the restrictions of lockdowns were implemented. Due to the social distancing measures implemented, the Government of Jamaica embarked on a number of drives to support businesses and hence partnered with 2 international digital businesses to support MSMEs with e-commerce support and digital solutions due to the restrictive measures. However, the sector still struggles with social media as the main means of operation. The aim of this initiative was to digitize 25 000 MSMEs by 2022 and to provide training and capacity building through workshops and seminars online (MIIC 2018).

According to a survey done by the Jamaica Business Development Corporation (JBDC2024), MSMEs are still struggling to use digital platforms. From the survey, 32.44% of MSMEs are using the digital platforms daily and grasp the importance, whereas 16.74% do not use digital technologies, and 26.45% have some knowledge of the various technologies that can be used. According to Kamenga and Alexander (2017), MSMEs may need to change the way they do business to adopt digital technology. Social media (SM) adaptation is not new and has become commonplace in almost every type and size of business (Zhang et al. 2017). The critical role of social media for MSMEs requires further analysis (He et al. 2014), and there are still uncertainties about SM use in this MSME sector (Zahra 2018). With globalization and increasing competition, especially in this era of COVID-19, MSMEs are likely to perform better if entrepreneurial orientation is encouraged (Fatima and Bilal 2019). The impact of COVID-19 is still new, and how MSMEs react to this crisis needs to undergo more studies. The readiness of

MSMEs to adopt digital technology is lacking in data and will require more studies to unearth how MSMEs should prepare to manage a crisis situation such as COVID-19.

In Jamaica, in order to combat this lack of readiness, the Development Bank of Jamaica (DBJ), in collaboration with the Ministry of Finance and Public Service, embarked on a project of giving loans and grants to affected MSMEs during the pandemic. The programmes were to aid with digitalization of operations to impact performance. These programmes included the MSME recovery loan facility and the go-digital grant and loan facility (MIIC). The main idea was to impact the resources of these MSMEs so that they can compete and survive in a turbulent environment and use their entrepreneurial skills to impact their businesses.

This is supported by entrepreneurial orientation that is grounded in Resource-Based View (RBV) theory and is considered to be central if businesses are to be competitive in a digital environment (Parveen et al. 2016). The theory analyzes and interprets the resources of an organization in achieving performance and competitive advantage (Wong and Karia 2010). As a result, firms that embrace EO are more likely to adopt new ideas and technology (McKenny 2018 & Gupta 2016). Nguyen et al. (2020), in their research, highlighted that there is a lack of compatibility between existing systems and emerging technologies, making it challenging for businesses to adopt. Durkin et al. (2013) also claimed that more needs to be examined about the experience of social media adaptation in MSMEs, especially in this current climate of the pandemic. It is therefore necessary to investigate MSMEs performance concentrating on social media adoption and entrepreneurial orientation through the lens of COVID-19 within a third-world context.

It is critical to understand how SM adaptation impacts the MSME sector in this era of the pandemic, as COVID-19 is a new phenomenon. Conducting research in this area will present findings that can inform policymakers, owners, and government how to correctly and efficiently handle crises of this global magnitude and crises in general. According to the Planning Institute of Jamaica (PIOJ), the COVID-19 pandemic shock was estimated to have created a significant decline in the gross domestic product of the country contributed by the MSME sector by 19.7% for the fiscal year 2020/2021. As a result, there are numerous studies supporting the resilience of SMEs during the pandemic, such as Kruckertz et al., 2020; Liu et al., 2020. However, there are research gaps that need to focus on EO using the Technology, Organization, and Environment (TOE) theory in light of Covid 19 and how this impacts on a firm's performance as the MSME sector is vital to the economy, creating a large percentage of jobs in various economies, and therefore requires more studies in order for the sector to remain robust and competitive in nature, as a failure in the MSME sector can impact negatively on economies if relevant studies are not conducted to mitigate against this challenge.

The research therefore seeks to fill the gaps of previous research in entrepreneurial orientation that looks at the concept of how entrepreneurial orientation impacts performance directly and indirectly using social media as a mediator in an emerging economy during a crisis. Numerous studies have covered entrepreneurial orientation to look at how this concept is directly related to social media adoption (Olanrewaju et al. 2020; Rezaei and Ortt 2018) and directly related to performance (Keh et al. 2007; Sulistyo and Ayuni 2020). However, very few researchers have used social media adoption as a mediator (Qalati et al., 2021), which distinguishes this study from others as it seeks to investigate the entrepreneurial orientation as a unidimensional concept. Considering the Covid-19 pandemic that started in March 2020, it is

essentially for social media adoption to be investigated through the lens of the pandemic. The technology, organization, and environment (TOE) framework has also been widely used in research. This framework helps businesses to understand how the overall environment that the business operates in aids with the decision-making of social media; therefore, the three contexts are areas that drive decision-making (Baker 2012). This study will seek to understand how MSMEs react to social media adoption from the perspective of TOE within a turbulent environment.

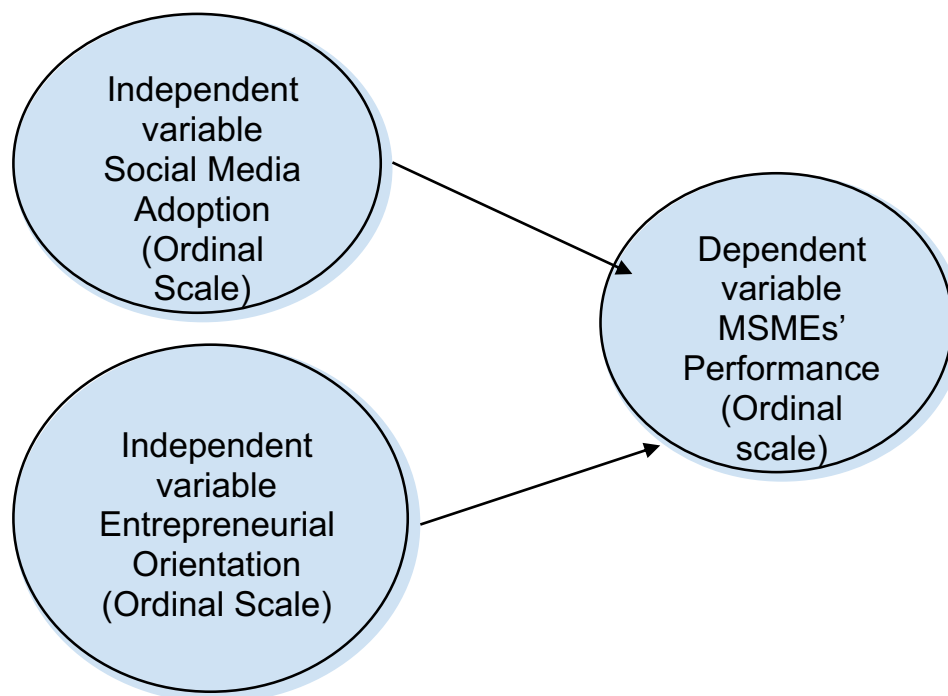
Purpose of the Study, Research Aims, and Objectives

The purpose of this quantitative study is to examine the relationship and impact of social media adoption and entrepreneurial orientation on firms' performance within the MSME sector of central Jamaica during the COVID-19 pandemic. As a way of collecting information about social media adoption and entrepreneurial activity in MSMEs during the period of the Covid-19 pandemic, a correlational design with survey instruments was utilized for the study.

The data was gathered using a purposive non-probability sampling approach to ensure that the population of owners and senior managers of these MSMEs was properly represented. To ensure statistical analysis procedures align with the data criteria and guarantee the research possesses validity, where the research certifies that the sample group was appropriate for the research (Cooper & Schindler, 2006; Robson, 2002). Leedy and Ormrod (2001) outline the collection tools of quantitative research, as data collection is important because incorrect data collected will affect the outcome of the research. In this research, surveys/questionnaires will be used to collect data.

Figure 2

Social media adoption and Entrepreneurial orientation (Independent variables) and MSMEs' performance (dependent variable)



The study was to identify and measure the impact of social media and entrepreneurial activities independent variables within an organisational setting of MSMEs and how they were impacted to affect the performance level dependent variable as shown on figure 1.1

In data collection, it is essential that the right research questions, hypotheses, and survey instruments are developed. The survey instrument's design will be constructed to eliminate biased responses and to ensure validity of the data collected. As a result, the survey items used were taken from validated survey instruments such as Fan, M et al. (2021), Dutot & Bergeron (2016), Ahmad et al. (2019), and Rodriguez et al. (2015). The idea of using surveys was to measure phenomena that would be difficult to observe. The survey was sent via online, considering the ease, to MSMEs that met the required criteria and were selected. The research utilized structural equation modeling in the form of regression and correlation analysis when analyzing the collected data.

Research Aims:

The impact of social media adaptation and entrepreneurial orientation on MSME performance during the COVID-19 has not been widely reported within third-world economies. The aim of this thesis is to investigate and examine how social media adaptation and entrepreneurial orientation impact MSME performance during this pandemic of COVID-19.

Objectives:

1. To examine the relationship between entrepreneurial orientation and MSMEs performance in central Jamaica during COVID 19.
2. To investigate how the mediating role of social media adoption impacts entrepreneurial orientation on MSMEs performance within central Jamaica.
3. To analyse the association of factors that drive the usage of social media within MSMEs businesses during the COVID-19 pandemic.
4. To assess how social media adaptation in MSMEs in central Jamaica affects the performance of businesses during the pandemic.

Significance of the Study

Investigating the impact of social media usage and entrepreneurial orientation on MSMEs performance during a world crisis is essential for providing needed information for the survival of MSMEs that contribute greatly to world economies. The study is significant due to the noteworthy impact of SMEs as drivers of economic development in most economies across the world (Obi et al. 2018; Ndiaye et al. 2018). With the coronavirus pandemic being considered one of the most notable and significant crises in modern times (Alon et al. 2020), businesses must adapt to the current challenges. To be competitive and satisfy the potential needs of customers, MSMEs must adopt new technologies such as social media (Al Mamum et. al. 2018).

Social media platforms have now become a key stimulant in contributing to the development of entrepreneurial activities in MSMEs (Fan et al., 2021). Wiklund and Shepherd (2004) state that entrepreneurial orientation improves organizational effectiveness and performance, but the idea of main-effects-only analysis provides a limited view and an

incomplete picture of performance. As a result, EO and SM must be studied to unearth data and information about social media adoption and entrepreneurial orientation through the lens of COVID-19 and its impact on MSME firm's performance within the context of the Caribbean. The study will provide valuable results for policymakers and the government through the Ministry of Industry and Investment and Commerce Jamaica to develop programmes and give support to MSMEs in central Jamaica through workshops and public education awareness drives in an effort to build MSMEs. This could also be beneficial to inform the types of training programmes required by the Jamaican MSMEs industry to be more competitive locally and internationally.

The results of the study will aid in redirecting business practitioners as to how to effectively utilize the concept of social media and entrepreneurship in meeting the environmental demands of what businesses should do to be viable during COVID 19. Managers and employees are required to act entrepreneurially and accept uncertain outcomes as SM is a new interactive technology (Tajudeen FP et al. 2018; Parvenn 2016). The significance of the study is to aid these practitioners, as some companies are still lacking sufficient knowledge on emerging technologies such as artificial intelligence, which affect the adaptation of technologies and analytical tools (Duan et al. 2019, Miklosik et al. 2019). There are also practical implications, as businesses need to know how social media and entrepreneurial orientation contribute to MSMEs performance level, as there are still arguments about the benefits of using SM platforms in businesses. In essence, the findings will inform MSMEs owners and managers of how to effectively integrate and use social media and entrepreneurial skills in improving performance through better customer engagement, improved marketing strategies using the various social media platforms,

and easier access to the goods and services offered by these MSMEs in central Jamaica, enhancing the overall business strategies.

According to Jadudeen et al. (2017), social media is about two-way communication that requires managers and employees to utilize entrepreneurial skills while at the same time being prepared for uncertain outcomes. In fact, Effendi et al. (2020) state that social media is expected to drive the pace of business in SMEs to recuperate the effect of the COVID-19 pandemic, but MSMEs need to improve their approach to the utilization of online networks. This research will aid MSMEs in showcasing how to adapt digital technologies in the form of social media, along with the use of entrepreneurial skills to possess ideas for them to maintain their competitive edge and how to manage crises.

Theoretically, this research will bridge the gap in literature regarding the lack of knowledge about how businesses within the MSMEs industry are performing in crisis situations with disposal of social media and entrepreneurial orientation. There are limited studies about social media and entrepreneurial operating as one factor and its impact on MSMEs performance during the COVID era, especially from a third-world context. According to Fan et al. (2021), there are limited studies about social media adoption as a mediator, and particularly this study will see entrepreneurial orientation be mediated by social media.

Nature of the study

Social media adoption and entrepreneurial orientation constitute important aspects of MSMEs survival in a fast-changing market. The global crisis of COVID-19 has caused major turbulence to the MSME sector globally. SMEs are known to contribute significantly to economies (Lumpkin & Dess 1996; Wiklund & Shepherd 2005). In fact, this claim further

supported where, in the European economy, 98% (percent) of the firms are SMEs (IFC 2010). This underscores the view that SMEs and MSMEs are critical to economics in developed, developing, and emerging economies worldwide. In developing countries, the formal SME sector accounts for approximately 45% percent of the labour force and contributes approximately 33% percent of the gross domestic product (GDP) (IFC 2010). In contrast, in a country such as Jamaica, MSME contributes approximately 80% percent of jobs, which is one of the major contributors to the country's GDP (MIIC 2018).

Research Method Overview

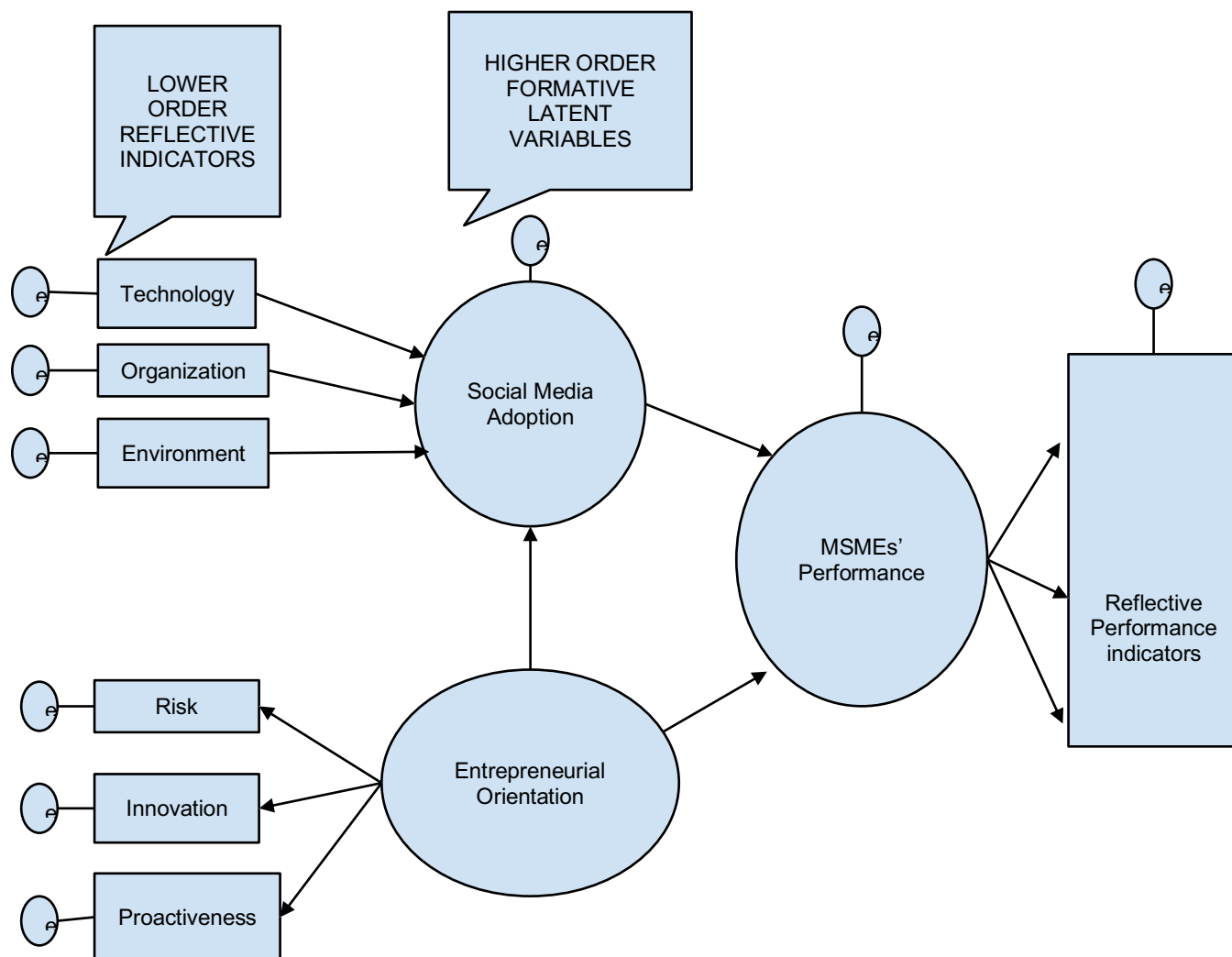
A quantitative research method was employed for this study. The two types of methodology are quantitative and qualitative; however, this quantitative is more appropriate for this research to analyse numbers relationships relating to social media adoption and entrepreneurial orientation impact on a firm's performance. According to Becker et al. (2012), quantifying data collected for analysis represents a quantitative research method. The two main variables in this type of research are independent (predictor) and dependent (criterion), and MSMEs performance represents the criterion variable, whereas entrepreneurial orientation and social media adoption represent the independent or predictor variables. Therefore, the quantitative method entails the relation between the two variables (Laerd Statistics 2018). Participants were mainly owners of MSMEs and, to a lesser extent, managers or senior staff who were able to provide the requisite knowledge. The population sample is important to ensure that the group is appropriate for the research question in order for the statistical analysis techniques to meet data requirements to ensure validity of the study (Cooper & Schindler, 2006; Robson, 2002).

Leedy and Ormrod (2001) outline the collection tools of quantitative research, as data collection is important because incorrect data collected will affect the outcome of the research. In this research, surveys/questionnaires will be used to collect data. In data collection, it is essential that the right research questions, hypotheses, and survey instruments are developed. The survey instrument's design was constructed using validated questions from prior research to eliminate bias responses and to ensure validity of the data collected.

One statistical tool that can be employed for analysing connections and patterns is the Partial Least Square-Structural Equation Model (PLS-SEM) approach. The PLS-SEM is widely used in social sciences and seeks a causal explanation (Hair et al. 2012). The connections seek to identify the patterns between latent variables and their indicators, and in addition, construct latent indicators with each other and also direct measurement errors (Hadwiansyah & Latief 2022). These form the basis of this approach, which is illustrated in *figure 2* below. The latent variables are normally hypothetical because those cannot be observed directly; therefore, the observable indicators are used to measure the latent variables social media adoption and entrepreneurial orientation, which can be measured through the reflective indicators of the technology organization and environment for the latent variable social media adoption and risk, innovation, and proactiveness for EO. The latent construct of social media adoption and entrepreneurial orientation can encounter mistakes based on the questionnaire item's variation, which is represented by 'e' on figure 2.

Figure 2

Reflective-formative/higher-order construct



Research Design

This study employed a predictive correlational design to investigate the relationship of the variables and to understand how the predictor variables and mediating variables predict the

differences in the dependent or criterion variable of MSMEs performance. This is non-experimental research, and hence the correlation research design will be able to identify the relations between variables (Frey 2018). The design is to identify patterns and associations of variables using various correlational models to predict a change in one or more variables (Friedman 2007). This research is non-experimental as there will be no manipulation of the predictor or independent variables; therefore, no cause-and-effect conclusions will be drawn. However, the literature assumes that a casual relationship may exist between the predictor variables and the dependent or criterion variables (Howell 2011; Warner 2013).

Finding the relationships between constructs in which new theories may be generated is the goal of the correlational study. Its goal is to find possible connections between the model's variables (Cepeda-Carrion et al., 2019). In its most basic form, exploratory reasoning is an inductive process wherein data and path models (theory) are connected using PLS-SEM. This approach can be a viable replacement that gets around sample size restrictions. In essence, a researcher may be able to obtain significant findings for path coefficients ranging from 0.21 to 0.30 with 60 to 100 as the sample size, even though possessing a larger sample size is recommended (Hair et al., 2022; Kock & Hadaya, 2018). Considering the limitation of the Covariance-Based Structural Equation Model (CB-SEM), Partial Least Squares-SEM has been proven to be a perfect substitute (Bacon 1999; Hwang et al. 2010). As the accuracy of model specifications cannot be guaranteed. The covariance-based SEM (CB-SEM), however, is a popular technique that is used in hypothesis testing. This SEM works well when the data is regularly dispersed, and the sample size is high, with the model specifications being accurate. However, finding data for this study where the sample size is high and the goals of the study are not exploratory and the findings show limited understanding of correlations between the

variables, this method was not selected as it would not be ideal for this data and the objectives of this paper.

Only owners and managers took part in the process of collecting data for this study. They were expected to self-report regarding their own views and opinions about how social media was adopted during COVID-19 and how they viewed entrepreneurial attitudes used throughout the period. The idea of using surveys was to measure phenomena, which would be difficult to observe. The survey was sent online, considering the ease of use, to MSMEs using non-probability purposive sampling and snowballing, as MSMEs needed to be operating for more than two years and before the COVID-19 pandemic.

Research Questions and Research Hypotheses

The influence of social media usage and entrepreneurial mindset on how MSMEs performed in Jamaica during the COVID-19 pandemic was investigated using the following questions: The study was guided by a set of research questions that involve both quantitative and theoretical components.

There are four research questions that will guide the study:

RQ1. What is the relationship between entrepreneurial orientation (EO) and MSMEs performance in central Jamaica during COVID-19?

H1₀. Entrepreneurial orientation is not positively associated with MSME's performance in Central Jamaica

H1_a. Entrepreneurial orientation is positively associated with MSME's performance in Central Jamaica

RQ2. What is the association between the TOE framework characteristics and social media adoption within MSMEs operating in Central Jamaica during COVID-19?

H2₀ Technology characteristics have no positive influence on social media adoption by MSMEs in central Jamaica.

H2_a Technology characteristics have a positive influence on social media adoption by MSMEs in central Jamaica.

H3₀ Organisational characteristics have no positive influence on social media adoption by MSMEs in central Jamaica.

H3_a Organisational characteristics have a positive influence on social media adoption by MSMEs in central Jamaica.

H4₀ Environmental characteristics have no positive influence on social media adoption by MSMEs in central Jamaica.

H4_a Environmental characteristics have a positive influence on social media adoption by MSMEs in central Jamaica.

RQ3. How do MSMEs in Central Jamaica perform when social media is adopted?

H5₀ Social media adoption has no positive effect on MSMSs performance in central Jamaica.

H5_a Social media adoption has a positive effect on MSMSs performance in central Jamaica.

RQ4. What is the relationship between entrepreneurial orientation (EO) and social media adoption as a mediating factor on MSMEs performance during COVID-19?

H6₀: There is no positive relation between entrepreneurial orientation and social media adoption.

H6_a There is a positive relation between entrepreneurial orientation and social media adoption.

H7₀: There is no positive relation between entrepreneurial orientation and social media adoption as a mediating role on MSMEs performance

H7_a: There is a positive relation between entrepreneurial orientation and social media adoption as a mediating role on MSMEs performance.

Assumptions

Anonymity is not disclosing the identity of the participants, and confidentiality is not disclosing the data (Clark 2006). The participants were asked to sign the informed consent and were told about confidentiality of the research through the gatekeeper letter. It was assumed that the participants who approached the survey with integrity, honesty, and were objective when answering the questions. Therefore, to accomplish this task, all participants, managers, and owners were informed of the confidentiality and anonymity of participating in the survey.

Another assumption was that the industry and nature of the business would not influence how they respond to questions, and as such, the variables of the type of industries the MSMEs operate in and the size were factors that were held constant. The third assumption was that these owners and managers would have the prior knowledge about their businesses and could relate directly to how they were affected by COVID-19 and how they used social media and EO.

The fourth assumption lies in how participants were able to understand jargon relating to questions in the survey. Language can impact how the respondent responds to questions as it impacts the attitude of participants (Akkermans et al. 2010). Therefore, the English was used for the survey questions, and questions were written and phrased in ways that simply used the jargon and terminologies but were still able to accomplish the required data from the survey.

Scope

The study was based around the relationship of social media adoption using the technology-organization-environment (TOE) frame as a precursor to social media adoption as an independent variable and entrepreneurial orientation and how both impacted performance during

the COVID-19 period. The population selected for the study were owners and managers of MSMEs in central Jamaica who would have been in operations for at least two years. The sample size was 154 MSMEs from a range of industries. The businesses that participated in the study were selected using purposive sampling, and the data was collected using the online survey done through the SurveyMonkey platform. The sample size was assumed to be representative of the MSMEs in central Jamaica who are fully registered with the registrar of companies in the central region of Jamaica.

A correlational approach was used with predictive nature to analyse data and was determined to be appropriate to measure the correlation between the various constructs. The outcome of the study can be applied to MSMEs in the central region of Jamaica, especially in crisis situations.

Limitations

Theofanidis and Fountouki (2019) delineate constraints as the plausible presuppositions that may encompass the theoretical frameworks employed in a research endeavour. Furthermore, all the diverse facets of the research, including the interpretation of results, measurement inaccuracies, the demographic utilized in the study, and the data collection methods, may contribute to a certain extent of limitations for the researcher. In this study there are potential limitations that can impact the transferability of findings, and hence the researcher addressed the possible consequences and impact of all the limitations that can be expected.

Limitations in a researcher surrounds the potential drawbacks that may be as a result of the how the study was designed and conducted but where the researcher has little to no control to manage the potential limitations. However, the limitations can impact the results and

interpretations of the findings, and this should be declared by the researcher to avoid misinformation and representation of the research (Theofanidis and Fountouki 2019).

The study was limited by the sample size, as the number of registered companies is less than the informal ones. A bigger sample size would have been more helpful to generalize the findings of the study. The study also depended heavily on volunteers, and even though the instrument had gone through validity and reliability checks, owners and managers may have rated performance and impact from a view point that may affect the truth of the data collected. When self-rating is required, one may be prone to rating his or her character higher.

The data collection was done where participants were allowed to self-answer the questions. There could have been misinterpretation of the questions, which created a limitation to the study. External factors such as the changes that were implemented by the government after the period of major lockdowns and restrictions on movement could impact how owners and managers responded to questions, as there could be more responses as to what is currently happening rather than what happened during the heights of the pandemic.

The study followed a quantitative correlation strategy with a predictive nature, and whereas this is ideal for the study, there could be limitations that came as a result of the type of methodology used. Quantitative research is ideal when the researcher seeks to identify and establish relationships among or between variables (Park and Park 2016). Consequently, not being able to go deeper in order to unearth the how of a phenomenon created limitations for the study results.

Delimitations

In a research where the researcher wants to create some parameters in which he or she wants to carry a research in order to avoid it being too broad and the objectives cannot be met, he or she will implement delimitations, which is different from scope as it helps with making the research more manageable and direct and aligned more to the research questions and aims of the study (Theofanidis and Fountoui 2019).

The geographic scope of the study was limited to only registered MSMEs in central Jamaica. Therefore, only the MSMEs that were willing to participate in the study were used; even if they were registered, they still had the option of participating in the research. As a result, the use of a larger population would have impacted the time frame of the research.

The study was also limited to the research design, as a quantitative research design was used that narrowed down the data collected. This further delimits the data collection technique of only using surveys to collect the data. The quantitative research method is more aligned to the purpose of the study.

Summary and Organization of thesis

The COVID-19 pandemic created a devastating impact on the economic world, and all areas were affected in some ways. The micro, small, and medium enterprises (MSMEs) were affected as the restriction had hampered how they operated during the pandemic. This, however, created opportunities for these businesses where social media and entrepreneurial skills were

employed as a way to navigate the turbulent times. Technology has become undoubtedly one of the key factors and/or resources that aid these businesses, and the skills of the owners and managers were also required to ensure survival.

This thesis was organized using five (5) major chapters and a number of sub-topics to record the research and the findings of the thesis. Chapter one opens with the introduction, which gives the background and statement of the research problem. The purpose and aims also outlined why the researchers saw it as relevant to conduct such a research. The objectives and the research methodology were also given so that the readers could have greater clarity as to how the various areas of the research were conducted. A research design with questions and objectives also puts the research in perspective. The scope, limitations, and delimitations were also presented in Chapter one (1). The literature review surrounding social media adoption entrepreneurial orientation, technology-organization-environment framework, and resource-based view are presented in Chapter 2. This chapter presents the conceptual framework covering the constructs of TOE, social media adoption, entrepreneurial orientation, and performance. The theory of resource-based view (RBV) as an underpinning theory was discussed in this chapter along with crisis management and the factors that influence the use of social media. The gaps of entrepreneurial orientation and technology-organization-environment frame were also highlighted. The next chapter covers the research method that goes more in depth into the research approach and design, considering the rationale for the research approach and design. The chapter outlines the research philosophy with the population and sample size, along with the construct variables covering social media adoption and entrepreneurial orientation. The procedures and ethical assurances were also outlined, along with discussion about validity and

reliability. The Partial Least Square Structural Equation Model was discussed and explained in the chapter as well.

Chapter four (4) outlined the findings and quantitative analysis used in the research process. The quantitative analysis outlined how the SMARTPLS software is used to analyze the data, using measurement and structural model of the conceptual framework of the study. All the hypotheses were tested, and evaluation of the findings was done. The final chapter looks at implication, limitations, and recommendations. These were discussed and outlined how the results of the study can be used in a practical manner and its impact on the literature. The conclusion shows what further studies can be done to extend the findings of this paper.

CHAPTER 2: LITERATURE REVIEW

Introduction

The literature review is set out to look deeper into how the COVID-19 crisis impacted the micro, small, and medium enterprises sector in central Jamaica. Additionally, it will outline how social media adoption and entrepreneurial orientation impacted how these businesses were able to perform in a turbulent economic and business environment. The pandemic is undoubtedly one of the most notable worldwide incidences that have created profound pressure on enterprises and businesses (Alon et al. 2020). In society and literature, MSMEs have been regarded as fundamental to the economic foundation and pillar of national economics, which by extension presumes that this sector plays a critical role in economic growth and development and hence received such recognition for fostering economic advancement (Salam and Hique 2019). The disruption caused by the pandemic created numerous negatives as well as positives, as MSMEs were not forced to rethink strategies and ways of operations, and digital platforms were now being employed to aid with communication with clients, which serves as a catalyst for these businesses and the deeper drive for entrepreneurial mindset (Fan et al. 2021). Entrepreneurial orientation has been studied in the literature and proves to an extent that the small, micro, and medium enterprises that are most successful are the ones that engage in robust entrepreneurial orientation activities (Fatima and Bilal 2019). The aim of this investigation is to understand more deeply how social media adoption and entrepreneurial orientation have been used in a reality when there is a crisis situation and not just a stable environment but how this sector was able to manage the issues of lockdowns and restriction of movement rules, shift in customers behaviour due to lack of confidence and fear as the situation was getting more dire by the day.

The study will add to the prevailing scholarly findings encompassing entrepreneurial orientation and social media adoption in crisis situations. There has been limited research covering the scope of central America/the Caribbean, and while there is research on social media adoption in MSMEs, this tends to be global and non-Caribbean focused. The Caribbean is unique in its characteristics that address its challenges (Abboodi et al., 2023). It is essential to develop research that addresses the unique cultural differences. The literature has also provided information to suggest gaps in how social media adoption is used as a mediator (Qalati et al. 2020). As a result, the study will aim at investigating how social media adoption and entrepreneurial orientation integrate to impact MSMEs performance in a crisis situation such as the COVID-19 pandemic. Pertiwi et al. (2022) found that studies normally focus on one of the constructs only, and the combination of both exogenous variables could shed more light on how MSMEs perform in crisis situations.

The literature will cover a number of topics and themes that are divided into three main areas. MSMEs in central Jamaica, social media adoption and entrepreneurial orientation, and the context of the COVID-19 pandemic. The issues of obstacles faced by MSMEs, the concept of performance, resource-based view theory, the technology, organization, and environment frame will all be integrated in the literature review.

In light of the disruptions precipitated by the COVID-19 pandemic, numerous enterprises have leveraged digital platforms to sustain communication with their clientele, thereby rendering social media an essential catalyst for entrepreneurial endeavors (Fan et al., 2021). Empirical evidence indicates that the most prosperous small and medium enterprises (SMEs) are characterized by a robust entrepreneurial orientation (Fatima & Bilal, 2019). This quantitative investigation seeks to elucidate the correlation and influence of social media utilization and entrepreneurial orientation on the performance metrics of firms operating within the Micro, Small, and Medium Enterprises (MSME) sector in central Jamaica during the COVID-19 pandemic.

The literature review extensively focuses on identifying how social media adoption and entrepreneurial orientation impact the performance of firms within the Micro, Small, and Medium Enterprises in Jamaica during the Covid-19 pandemic. The study explored Google Scholar, EBSCO, and ProQuest databases and utilized a ‘building blocks method’ in which key terms and phrases were typed into the search engine and boxed to allocate relevant articles. Peer-reviewed academic articles and publications, and a few seminal papers were thoroughly assessed to identify the main and streaming concepts in each publication. The information presented included research from a time span of 1980s to 2022 in order to develop a comprehensive view of social media and entrepreneurial orientation impact on MSMEs before and during the COVID-19 crisis and how firms perform within the Jamaican economy.

Theoretical Framework

In this study, the Technology, Organization, and Environment (TOE) framework and resource-based view (RBV) theory apply most appropriately and constructively to the research problem. The TOE framework can best be understood through the three context groups, which are technology organization and environment. It is a framework that has been recognized as a useful tool in analyzing the adoption of social media in micro, small, and medium enterprises. On the other hand, RBV theory is central to entrepreneurial orientation and can be understood through the construct that a firm's sustained competitiveness resonates from resources that are valuable, rare, inimitable, and non-substitutable (Barney, 1991; Dhanaraj & Beamish, 2003; Wernerfelt, 1984).

The TOE structure was engineered by Tornatzky (1990) and has seen several studies exploring information systems problems and adoption of technology utilizing this concept. The technological context pertains to both existing and emergent technologies that may be utilized within the organization. In relation to the organizational context, it encompasses attributes that define a firm, including its scale, hierarchy of management, workforce competencies, and operational scope. The environmental context pertains to competitive entities, industry-specific governmental organizations, and the overarching ecosystem in which firms function (Qalati et al. 2020). The framework is a combination of 'human and non-human' determinants that give more credence than that of the 'technology acceptance model (TAM)' and the 'united theory of acceptance' (Awa et al. 2017). The TAM has been used by numerous researchers to analyze the behavioral determinants that influence the acceptance of technological innovations (Awa et al., 2015; Razak & Latip, 2016; Al-Adwan et al., 2020). However, according to Ajibade (2018), TAM has been criticized as not being plausible for the work environment but mainly for

identifying behavioral factors relating to individuals. Similarly, the framework has been criticized for emphasizing an individual's perception of technology (Ajibade 2016). Considering the COVID-19 crises, firms need to develop strategies to improve business resilience (Reeves et al. 2020). Therefore, this study is more about the need for compliance with technology adoption than behavioral issues. As a result, the TOE model was chosen.

Numerous studies have produced empirical findings to confirm that the use of the TOE model is ideal for SMEs in understanding the adaptation of technology (Ahmed et al., 2018; Cao et al., 2018). Further to that, Abed (2020) states that many papers have linked new technology adoption with TOE dimensions, which creates a fuller picture of the drivers of technology adoption. Alshamaila et al. (2013) employed this TOE model in the UK, where an evaluation was done about the cloud computing implementation processes within SMEs. Further studies that are more related to the COVID-19 pandemic have also seen the examination of social media implementation of SME using the TOE framework. Sugandini et al. (2020) investigated social media and its adoption in SME in Indonesia and concluded that the social media adaptation is important to SMEs impacted by COVID-19. This research is similar in nature but will be done in the context of Jamaica. Abed (2020) postulates that the TOE framework possesses a robust theoretical foundation and empirical support.

The TOE framework is consistent with the Resource-Based View (RBV) theory (Ahmad et al. 2018). The RBV theory came into existence by Wernerfelt (1984), who concluded that a firm is a collection of resources that can be categorized into two areas: tangible and intangible assets. Tangible resources include capital and location, among others, and intangible resources include knowledge, skills, reputation, and entrepreneurial orientation (Runyan et al. 2006). The theory states that firms should focus on being competitive based on the valuable and unique

resources it possesses. This was further enhanced by Barns (1991), who claims that company resources should be valuable, rare, inimitable, and non-substitutable (VRIN) in order to achieve sustainable competitiveness and performance. One of the most critical characteristics of RBV is the focus of internal forces of a firm, which is linked to Penrose (1959). A number of studies about the role of firms resources as the basis of firm strategy have been done (Grant 1991; Miller and Shamise 1996), which has led to several advances about strategic levels where all of which have contributed to RBV.

Grant (1991) states that managers must select appropriate strategies in order to effectively utilize the resources and capabilities of the company. However, managers are not the sole reason for firms performing at a high standard, as studies have shown that resources and organizational capabilities influence a firm's performance (Barney and Clarke 2007). According to Lerner and Almor (2002), few studies have considered small firms from a resource-based view; however, entrepreneurial orientation (EO) is a management skill that small business owners need in order to be competitive and to sustain performance (Runya et al. 2006). Other researchers (Barney & Mackey 2005, Peteraf 1993) argued that measuring resource-based theory can be problematic. They postulate that empirical work on the RBV has to gauge the implications of a firm's resource capabilities rather than simply examining the resources directly (Barney & Mackey 2005). Zhou et al. (2007) posit that strategic orientation is an intangible asset that is owned by a firm and can enhance performance.

Based on the RBV theory, entrepreneurial orientation is a key factor for firms operating in a digital environment (Parveen et al. 2016). Entrepreneurial orientation deals with the processes, practices, and decision activities that lead to new opportunities for firms (Covin and Slevin 1989). According to Ndubisi et al (2011), the construct of EO is directly related to the

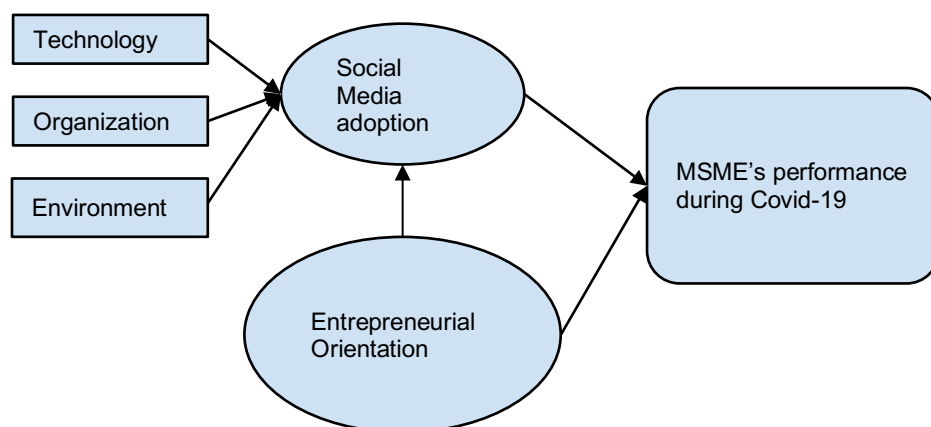
RBV theory as a collection of an organization's unique resources and capabilities. The dimensions of EO are innovativeness, risk-taking, and proactiveness (Miller 1983). Firms with robust EO perform better (Colvin and Slevin 1989, Wiklund and Shepherd 2005).

Entrepreneurial orientation is seen as essential in the process of survival in organizations and also improves performance (Amin et al. 2016; Khalili et al. 2013). This is essential, as during the time of COVID-19 firms were pushed into survival moods. As a result, studies have shown that micro, small, and medium enterprises (MSMEs) that adopt EO perform their activities more efficiently than others (Semrau et al. 2016).

Figure 4 shows the conceptual framework, the first construct is for the technology-organization-environment framework which feeds data for the social media adoption construction as the independent variable which then is connected to the performance construct as the dependent variable. The entrepreneurial orientation construct is an independent variable that has direct relation to the MSMEs performance construct as well as direct and indirect relation to social media adoption to determine the mediating impact on performance.

Figure 3

Conceptual framework model



About Jamaica

Jamaica is an English-speaking country in the Caribbean with a population of approximately 3 million people (Statistical Institute of Jamaica 2017). Jamaica received independence in 1962 and had the Jamaica Constitution drafted by a bipartisan joint committee of the Jamaican legislature in 1961–62, which was approved by the United Kingdom (Jamaica Information Service 2022). The country motto is ‘Out of many, one people’ and is made of mixed descendants consisting of 91.2% of black descendants of African slaves, 6.2% of Chinese, Europeans, and East Indians, and 2.6% of other descendants (Statin 2017).

The country's economy is made of a number of sectors, with tourism being one of the major contributors. In 2019, Jamaica welcomed 4.2 million tourists; however, in addition, there are other sectors such as services, agriculture, and bauxite (Gordon 2007). The MSME in Jamaica is a major economic driver for growth and development. The Jamaica Ministry of Industry, Investment, and Commerce (2018) reported that the MSME sector contributed 80% of jobs in the country. STATIN (2017) estimated that Jamaica would have been affected by COVID-19, where an increase in unemployment would increase from 7.3% to double digits during the pandemic.

There is not a single global definition for micro, small, and medium-sized enterprises, considering the myriad of factors to determine the categories. The European Union (EU) defines MSMEs as firms with up to 50 million in annual turnover and 1 to 249 employees. The World Bank, on the other hand, defines that micro enterprises should have up to 10 employees and annual sales of no more than US\$100,000, small enterprises are those with maximum 50 employees and total sales of not more than US\$3 million. Medium-sized enterprises have up to

300 staff and sales up to US\$15 million (Ayyagari 2003). In 1990 and 1996, the MSME sector accounted for 18.3% and 18.1% of employment. According to STATIN, the own-account worker accounted for 35.9% of the employed labor force.

There is not extensive data that is available on the MSMEs and family-owned businesses (FOB) in the Caribbean; however, surveys were done to garner information. Reference therefore can be made to the LN survey (Nicholson and Lashley 2016) done in 2012, the Compete Caribbean (CC) survey conducted in 2014 (The Compete Caribbean Survey 2014), and the census of population and labor market survey (Lashley and Smith 2015). According to the data collected from the SLN survey, 70% of family owned businesses in the English-speaking Caribbean are MSMEs. 55% of this amount are limited liability companies, 22% are sole traders or a partnership agreement, and publicly listed companies count for 1.3%. It is estimated that 62% of ownership is male-dominated, having males as major partners, and 27% represents the female dominance, with 11% as equally distributed. The Compete Caribbean (CC) survey gave 49.4% of companies are micro or small, partnerships or limited liability companies accounted for 27.6%, sole proprietorship represents 37.3%, and 34% were companies privately held. According to the 2015 census, 2.6 million people who were employed within the Caribbean saw 27.2% who are self-employed, 3.8% employing others, and 23.3% are those being own-account workers.

Micro and small enterprises in Jamaica are reported to be the second largest source of employment (PIOJ 2016). The ESSJ reports showed that the number of own account workers was 417700 people, and total males employed in the own account category was approximately 264,725 which accounts for 63%, with 152,975 which represents 37% of women who are employed in the sector.

The Ministry of Industry, Investment, and Commerce (MIIC) in 2011 had a workshop and drafted a national definition for Jamaica.

Table 1

Definition for MSMEs in Jamaica

Adopted from <https://www.miic.gov.jm/content/msme-sector>

<i>Firm Category</i>	<i>'Total Annual sales/Turnover'</i>	<i>Number of Employees'</i>
<i>'Micro</i>	<i>'<J\$15 million'</i>	<i>'<5'</i>
<i>'Small'</i>	<i>'>J\$15 million < J\$75 million'</i>	<i>'6-20'</i>
<i>'Medium'</i>	<i>'>J\$75 million < J\$425million'</i>	<i>'21-50'</i>

Above is how the MSMEs sector is categorized. However, there are ongoing problems as there is a high number of informalities among the Jamaican MSMEs, which has contributed to the growth and development of this sector (Jamaica Information Service). As a result, the country decided on creating a policy to support the MSME sector and outlined five (5) domains

which are to 1. Improve the business environment, 2. increase finance to MSMEs, 3. enhance business development support, 4. broaden the entrepreneurial and innovative base and 5.

Tackling cross-cutting socioeconomic and environmental issues (MIIC 2018). Table 2 shows how the MSME sector is divided:

Table 2

Percentage of MSMEs by sector in Jamaica

Source: PSDP (April 2008) A landscape Assessment of Jamaica MSME

Sectors	Percentage
Wholesale and Retail Trade	55.7
Community, Social and Personal services	23.3
Manufacturing (Non-Metal)	9
Manufacturing (Metal)	2
Transport Sales and Communication	3.9
Financial, Insurance, Real estate and Business services	2.4
Construction	2.3
Electricity, Gas and Water Supply	1.2
Mining	0.1

This survey was conducted in 2008, and though things might have been different, there is little information that can be obtained to support recent data. The MSMEs in Jamaica are mainly made up of wholesale and retail companies. 55.7% of the MSMEs were in the wholesale and retail trend, whereas 23.3% were in community and social personal services.

According to Ramadhani (2020), Micro, Small, and Medium Enterprises (MSMEs) are businesses that are normally operated and managed by groups with a turnover and wealth below that of medium firms. These businesses aid in the development of the Jamaican economy even though they are seen and viewed as smaller-scale operations. In literature, Micro, Small, and Medium Enterprises are defined as businesses owned and operated by individuals and/or families having a net income of less than 300 million rupiah per annum. In addition, these are companies with a yearly profit of less than 200 million dollars. In Jamaica, MSMEs contributed heavily to the national economy and gross domestic product of the country. With this in mind, it is also important to note that the COVID-19 pandemic has impacted the sector. With the implementation of restriction policies and lockdowns, some businesses were forced to close (Dewi and Melati 2021).

Covid 19 in Jamaica

The COVID-19 pandemic hit the world, and Jamaica was no different in how businesses were affected. The United Nations Economic Commission for Latin America and the Caribbean (2020) states that the Jamaican economy suffered from the pandemic with declining growth of 1.7%, 20%, and 11% for the period January to September. This resulted in reduction in consumer demand of goods and services and therefore lower sales revenue, which adversely affected the businesses bottom line of profit (Economic Intelligence unit 2021; National Bureau of

Economics). Research 2021). In an effort to assist the MSMEs, the government of Jamaica developed the 'Covid-9 Small Business Grant.'. The grant is a one-time payment of 100,000 JMD, which is approximately US\$704 to all businesses that are registered, have filed tax returns, and have proof of payroll taxes verified by the Tax Administration of Jamaica. The size of the business was also a criterion for the grant (Ricketts 2020).

Jamaica's first recorded COVID-19 case was in March 2020, about six weeks after the virus was declared a global pandemic by the World Health Organization. The labour force immediately felt the impact, where hotel and tourism workers were severely affected, with approximately 99% of the workers not being able to continue working (The Jamaica Gleaner 2020). According to the Jamaica Information Service (2019), after the reopening of the the country's borders, a small percentage of 5000 workers returned to work out of a total of approximately 400,000, with one third employed by the hotels and the remaining number employed in various other areas such as craft-making, transportation, agriculture, entertainment, retail operations, and restaurants. Foreign exchange earnings are essential for the Jamaican economy, and tourism is the biggest earner, accounting for approximately 42%, which is estimated to account for around 20% of gross domestic product (The Observer 2019).

The micro, small, and medium enterprise is critical to the survival of the economy, and according to the Labour Force Survey, approximately 47% of the nonfarm workers are employed in the informal sector. In Jamaica, one-half of households (49.3%) are recipients of remittances from overseas. According to the Jamaica survey of Living Conditions 2017, remittance inflows accounted for 16% of the country's gross domestic product, which is more than the global average of 4.93%. However, COVID-19 significantly affected the inflow, where there was a 15% decline when compared to the six weeks in the previous year (ILO Survey 2020).

Challenges faced by Micro, Small and Medium Enterprises (MSMEs)

As in other countries, Jamaican Micro, Small, and Medium Enterprises (MSMEs) suffer from a number of challenges and difficulties. Considering the country, the businesses within the sector have to deal with high energy costs, a devaluing currency, and security costs, to name a few, and this has led to a number of business closures and retarded growth so that these businesses cannot be as competitive (Draft MSME and Entrepreneurship Policy Jamaica 2012). Marketing is highlighted as one of the main weaknesses for MSME (Tambunan 2011), and this comes as a result of the managers and owners possessing a tentative attitude towards this, and in addition, a lack of resources has hampered effective marketing programmes (Vega and Rojas 2011). Innovation has been considered as one of the integral challenges faced in marketing; therefore, efforts to attract customers and develop new products have been hindered (Evans and Sawyer 2009). Meredith (1994) concurs that marketing is as important to smaller businesses as it is to larger corporations, especially to smaller retail firms. The ability to attract customers is critical, among other factors such as location and the quality of goods and services offered, in order for these micro, small, and medium enterprises to be successful.

As the world becomes a global village, globalization inevitably impacts the world economy, where reduction in barriers to international trade is more on the forefront, and this has helped the cause of smaller businesses to participate in international trade (Ekeledo & Bewayo 2009). However, while this may be considered good news, there is still a major challenge for micro, small, and medium enterprises of developing economies (Lahiri 2012), as it is difficult for these MSMEs to capitalize on the positive impacts of globalization. It is therefore essential for

Government policy makers should utilize resources on programmes that can support the export potential of MSMES, which might be more beneficial than spreading resources across larger firms (International Trade Forum 1999).

Micro, small, and medium enterprises also struggle with access to credit and financing, and this is one of the major reported challenges this sector faces (Evans and Sawyers 2009; Lahiri 2012). To obtain financing is not normally the easiest for MSMEs, as the banking procedures and processes are not designed to facilitate small businesses. As a result, these businesses are financed by personal savings and loans from friends and family members. As highlighted by Lahiri (2012), banks consider this sector to be of high risk considering factors such as low growth rate, lack of credit worthiness, and inadequate collateral to satisfy the requirements outlined by the banks. According to Kira & He (2012), collateral requirements are one of the key factors that drives debt financing, which shows that larger firms do possess higher access to debt financing than micro, small, and medium firms. However, players from the micro, small, and medium enterprises sector view the financing procedure by banks to be difficult, cumbersome, and with collateral demands (Ekeledo and Bewayo 2009). This was further amplified by Venkateswarlu and Ravindra (2012), as they consider the interest rate on loans to be one of the top three issues that MSMEs owners and managers face. The bureaucratic systems of governments can also create barriers for MSMEs, as policies such as regulatory, labor, market, regional development policy, social and gender policies can be very complex (Asghar et al 2011). The micro small and medium enterprises have considered the government agencies with all the bureaucratic systems, processes and procedures to be as a dominant bugbear (Tambunan 2011). And further to compound the issues, one can also find inconsistencies between policies at

central government and those of the government agencies which can be challenging for economics actors within the Micro, Small and medium enterprise (Onu & Ekine 2009).

Credit is important for the MSME sector given that it bolsters the affordability and competitiveness of the businesses. In the Indian context, outstanding credit from banks was around 16.6 lakh crore, however this disbursal has been delayed. It is said that 90% of the loans are held by commercial banks and MSMEs due to the lack of formalisation and collateral are unable to acquire such loans. MSMEs normally find it challenging as banks are unable to determine their credit worthiness due to asymmetry information. These businesses also find it challenging to obtain risk financing and benefits from government agencies, but different governments are regulating the sector to be more formalised (IJO 2022).

In the Jamaican context MSMEs are considered by the government as an important source of income and employment. As a result the government of Jamaica placed growth as a top priority for the sector. According to research there is a close relationship between MSMEs and the informal sector and this sector contributes significantly to the country's GDP up to 44%. It is evident from studies that small businesses have less access to loans and credit where the commercial banks dominate. Additionally it can be stated that there is a stronger network of businesses where small local banks have a greater cluster of small businesses. And this is truth in in the Jamaican context where community banks such as PC- People cooperative in Jamaica grant more loans to small businesses than the bigger commercial banks. These are some of the challenges that MSMEs face when it comes to financing. As a result of this, MSMEs have found it more challenging to obtain loans from the mainstream commercial banks that have dominance in the market. However, small banks are able to assess the risk associated with lending money as they can connect easier to the local people (Kumar et al 2017).

Another challenge that Micro small and medium enterprises face is the reluctance to invest in technology. This however, impacts the businesses where they tend to lack knowledge and technical skills (Evans and Sawyer 2009). According to Macgregor (2003) MSMEs struggle due to the fact that they lack innovation to an extent, they are reserved in seeking advice from consultants and the government, and it is challenging for them to access reliable industry information that can support the business. These businesses within the sector may experience various difficulties and may be excluded from the market as a result of the out-dated technologies being employed resulting in lower quality of products and increased cost, it may be difficult also to differentiate products.

Being innovative is another challenge that MSMEs may face but in spite of the issues Hagedoorn (1996) believes that micro small and medium enterprises could actually play an essential and important role in this area. There is also the issue that many of these businesses are informal and not registered. However, there are solutions that have been put forward such as decreasing establishment cost, development of simple and easy to use registration procedures and for taxation purposes as well, simplify bookkeeping systems and provide support for easier access to financial aid. In addition, it is reported that smaller firms tend to have lower levels of productivity (Tambunan 2011). Factors such as crime, and sabotage were identified as among top economic problems faced by MSMEs (Venkateswarlu and Ravindra 2012).

Due to the restriction regulations and orders given by governments around the world many MSMEs were affected, as transactions were placed on hold. According to Subraidi et al (2021) there were disruptions in the supply chain affecting manpower and manufacturing inputs, which inevitably affected the financial position of most of the MSMEs as sales were down. Future uncertainty was a main issue among MSMEs as entrepreneurs were not sure if their

businesses would and could survive the restrictions. MSMEs had to grapple with cash flow issues, redundancy and some had to close due to the pandemic (Mouelhi and Ghazali 2021). The pandemic also affects how these businesses redevelop their strategies and reevaluate the goals and objectives whilst seeking new opportunities in order to survive (Saarenketo 2022).

Businesses without continuity plans are more susceptible to failure as it is estimated that around 75% of ventures without proper plans for survival and sustainability will fail within three years of a crisis (Cook 2015). It is highly recommended that the task of managing and controlling a crisis is essential for companies to develop strategies and tactics as to how to handle a crisis (Quarantelli et al 2007).

MSMEs contribution to National economies

Micro, Small and Medium Enterprises (MSMEs) are integral in national economies as they are known in literature to contribute significantly to development and national income. In the Caribbean MSMEs contribute approximately 45% of jobs as these businesses are providing valuable opportunities and 60% of the gross domestic product (GDP) Henry (2019). It is thought by MSMEs also that improved and modern technologies are acquired and utilized as MSMEs in developing and developed countries can be traced to the introduction of new and modern machinery and equipment in various sectors (Erdin & Ozkaya 2020). This evidently contributes to socio-cultural and economic quality of life. The MSME sector is a priority for the Government of Jamaica as the sector provides approximately 80% of jobs (MIIC 2022).

In addition, MSMEs in the European Union (EU) according to the literature from 2009 to 2019 can account for approximately a third of job changes (Erdin and Ozkaya 2020; Nursini 2020). Even though this sector may be considered to be economically weak, the sector can be

seen as a major player in economic growth. Numerous studies have proved that MSMEs do contribute to economic growth. One study was done in South Africa that indicated a positive relationship with MSMEs and economic growth (Engineering new 2019). Additionally in South Africa MSMEs contribute to the government revenues were approximately 6% corporate taxes were paid to the government (Engineering new 2019).

In addition to being a catalyst for economic growth, evidence in the literature shows that MSMEs in some countries have contributed to collections of government revenues. For example, in 2019, MSEs in South Africa contributed approximately 6% of the corporate taxes paid to the South African Government (Engineering News, 2019), which positively impacted the country's economy. This example suggests that the South African economy has benefited from the existence of these MSMEs. National economies do benefit significantly from the contribution of the Micro, Small and Medium Enterprises (MSMEs). The contribution can be assessed from the viewpoint of its contribution economically, socially and politically. Further to this Micro Small and Medium enterprises involve employment creation, wealth creation, adaptation of technologies and mobilization of resources and increased output (Abdullahi, Tafida and Yusuf 2018). Hailey (1991) posits that social benefits are numerous where redistribution of income and opportunities in the communities with personal involvement, reduction in poverty, provision of goods and services and balanced development in the countries that employ and focus on MSMEs development, provides a platform for new initiatives to develop and grow. Politically it aids in the redistribution of wealth and opportunities within communities (Abdullahi, Tafida and Yusuf 2018).

The Micro, Small and Medium Enterprises (MSMEs) are known to provide jobs in most economies around the world. Even though the role that this sector plays may be different around

the world and may also indicate importance at different stages in different economic growth, the MSMEs sector is important in developing countries (Abdullahi, Tafida and Yusuf 2018). Beck et al 2005 in their research found a positive and strong correlation and association between the Micro, Small and Medium enterprises sector and Gross Domestic Product (GDP) per capita of a country.

Undoubtedly, Micro, Small and Medium Enterprises (MSMEs) have been the engine of growth in most societies (Abdullahi, Tafida and Yusuf 2018). Countries such as Malaysia, Thailand, China and India are a few countries where MSMEs can account for more than 70% Percent of their exports (Abdullahi, Tafida and Yusuf 2018; Duro 2013). In Jamaica it is estimated that approximately 80% of job creation is from the Micro Small and Medium Enterprise sector (MIIC 2020). It is however, difficult for MSMEs to survive in some countries due to access of funds and effective infrastructure to operate (Abdullahi, Tafida and Yusuf 2018). According to Sacerdoti (2005) banks have shown their reluctance to lend to micro, small and medium business owners especially for long term as they are considered high risk. This sector does not have the support to compete against the multinational corporations (Abdullahi, Tafida and Yusuf 2018).

Entrepreneurial orientation

Entrepreneurial Orientation is considered to be the practices, processes and decision-making activities that lead to new entry (Lumpkin and Dess 1996). Entrepreneurial orientation and entrepreneurship are different in nature, entrepreneurship deals with the process and how entrepreneurship is done, which looks at the methods, decision making and practices employed as one acts entrepreneurial. (Sang and Suzanne 2000). Miller (1983) started the concept of

Entrepreneurial Orientation (EO), which he outlines as product-market innovation and the undertaking of risks. The concept of EO was further developed by Morris and Paul (1987) as one who has decision making responsibility to bolster proactive and innovative strategies which have some amount of risk. Therefore, EO is an initiative that involves risk taking dimensions within businesses to aid change and innovativeness (Covin and Slevin 1989). Further to this Covin and Slevin (1989) outline EO as a three dimensional model which includes innovativeness, risk-taking and proactiveness. To support this claim Merz and Sauber (1995) in their investigation define EO as the proactiveness and willingness of the firm to innovate and create new offerings. It is redesigning and reengineering existing systems that will result in a firm's ability to respond to the changes within the business environment to compete. Consequently, EO was further defined as the combination of processes, practices and decision making skills that are enveloped in independence, innovativeness and risk taking. (Lumpkin and Dess 1996). To the previous model Lumpkin and Dess (1996) proposed two additional dimensions which are competitive aggressiveness and autonomy.

However, the literature review has disagreement as it pertains to EO dimensions. Three basic dimensions of EO, innovativeness, proactiveness and risk taking were introduced by Miller (1983). However, Lumpkin and Dess (1996) suggested two additional dimensions, autonomy and competitive aggressiveness. The argument states that decision-making and activities undertaken by an organization is autonomous aid in creating a system for strategic prowess and entrepreneurial outcomes (Lumpkin et al 2009). Colvin and Slevin (1989) however, believe that competitive aggressiveness construct is a drive by an organization to act aggressively and proactively it is recognized as entrepreneurial behavior.

More recent studies prove that EO is instrumental in firm's recognition of entrepreneurial opportunities (Filser et al 2020; Song et al 2017). Firms with higher EO are those that engage in more aggressive risk-taking, proactiveness and innovation whereas the firms with lower EO are more traditional and conservative in their approach (Covin and Selvin 1991). Covin and Miles (1999) concur and state that organizations with high levels of EO are the ones that regularly scan and monitor activities to explore new opportunities to bolster their competitive positions. Linking EO to firms has shown that there are many varying outcomes. The level of EO has been connected to firm performance (Rauch et al 2009), innovation (Avlonitis and Salavou 2007) and firm growth (Moreno and Casillas 2008). SMEs today are considered a driving force in economic growth through the application of principles that are entrepreneurial and innovative to support progress (Lawson & Samson 2001; Rauch et al 2005).

As a way of dealing with unpredictable situations, MSMEs regularly utilise the entrepreneurial attitude when trying to identify new opportunities even though restricted by resources (Fard & Amiri 2018). There are vast academic studies that have elucidated the concept of entrepreneurial mindset and how the fundamental ideas may be the fundamental idea for individuals. This concept of entrepreneurship is not restricted to business owners, however, it is widely associated with owners and managers who operate MSMEs and other business types. In general, entrepreneurial ideas circumscribe the entire processes of identifying, creating and accomplishing the vision and mission in a creative manner and to recognize the opportunities of implementing these ideas in the business operation.

In essence, EO is about the strategies employed by firms to be innovative, to be proactive and to be cognizant of the risk taking decision and activities (Presutti & Odorici 2019; Rauch et al 2009). Innovativeness has changed over time but kept the core of the meaning. Lumpkin and

Dess (1996) define innovativeness as a dimension of EO as an ‘inclination to experiment and be creative that leads to new products, services and/or technological processes.’ The belief is that Innovativeness can be envisaged as the willingness to try a new product or experiment to master technological advances (Lumpkin and Dess 1996). Damanpour and Wischnevsky (2006) defined innovativeness as the development and use of new ideas or behaviours in organisations. In essence, the concept of innovativeness is creativity and experimentation through the use of technology (Mason et al 2015). It is to introduce new or novelty creative processes (Felicio et al 2012). Proactiveness is looking at the future competition and creating and designing producers that are ahead of the competition (Mason et al 2015). Prior to work done by Mason et. al 2015, Lumpkin and Dess (1996) postulate that proactiveness is about taking initiative to pursue new opportunities and challenges. It is operating with the future in mind. It is about restructuring and reconfiguration of how knowledge and resources are utilized for new opportunities (Hughes et al 2007). Lumpkin and Dess (2001) state that risking is venturing into unknown markets and risking large investment amounts and resources in uncertain outcomes. Risk taking is the propensity of taking bold actions and entering into the unknown, borrowing heavily and/or committing resources into uncertain environments (Mason et al 2015). However, for EO to be effective, significant resource support is necessary as this may impede the impact of EO on a firm’s strategic orientation (Jiang et al 2018).

There is the continuous debate of how entrepreneurial orientation should be measured whether using multidimensional concepts or unidimensional concepts as an organisational construct. Miller as early as 1983 and other researchers such as Covin and Slevin (1991) believe that a firm should concurrently involve all the entrepreneurial orientation dimensions and additionally these dimensions should be attributed equally to the performance in order for this

action to be considered as entrepreneurial orientation. Therefore in order to attain a greater degree of entrepreneurial orientation there should be an increase in the entrepreneurial dimensions even though all the dimensions do not necessarily need to contribute at the same time. Researchers such as Covein et al (2006) postulate that entrepreneurial orientation is non-existent if the individual concepts are broken down within the construct and hence it eliminates the unidimensional concept of entrepreneurial orientation. On the other hand, there are researchers who claim that the five dimensional construct of entrepreneurial orientation possesses equal strength in how they impact the performance of a business as they are considered as singular to sustain the business performance (Deepa et al 2016).

However, there is the school of thought that entrepreneurial orientation should be considered as separate and distinct elements in the construct to impact on firm performance. This is regarded as the multidimensional approach posited by Lumpkin and Dess (1996). As a result, this school of thought views that each dimension impacts performance separately and the dimensions may be high or low in terms of the value contribution to the measure of performance which can be interpreted for each value (Covin and Slevin 2011). Hence, entrepreneurial orientation consists of each distinct dimension where firms may not necessarily need to employ all the dimensions concurrently for it to be considered as entrepreneurial (Chow 2006). In other words businesses may choose the combinations of what entrepreneurial orientation dimensions they may need to impact on performance within the business as each is considered separately (Kreisher et al 2002).

A number of researchers have employed the unidimensional method of investigating business performance relation to entrepreneurial orientation. This basically outlines that risk-taking, innovativeness and proactiveness were utilised simultaneously. This approach was

highlighted by two researchers who conducted analysis of approximately 99 projects dealing with software. On the other hand, there are other researchers who have employed the multidimensional approach of entrepreneurial orientation dimension where 85 small and medium enterprises were investigated and it was found that the multidimensional technique does possess significant correlation with the success of businesses (Milovanovic & Wittine 2014).

Resource Based Theory

Resource-based theory (RBT) and Resource-based view (RBV) are interchangeable even though a number of researchers such as Crook et al (2008) and Kozlenkova et al (2014) based on research used the term resource-based theory considering that the concept was developed into a theory. In the 1980s the RBT started to attract more attention from researchers and managers interested in strategic management. The precursor for this theory came from the development and growth of businesses and Jay Barney in the 1990s aided this theory with his work in strategic management. Penrose (2009) posited that firm resources should be effectively managed, strategies should include diversification and productive opportunities should be sorted. In addition, firms are a bundle of resources that should be coordinated to handle how objectives are achieved by the business. RBT deals with the internal resources of an organisation and to enhance understanding of a business successes and shortcomings that transpires from organisational activities (Kozlenkova et al 2014). The goal of RBT is to unearth information about resources that are not replicated easily which possess the potential for long-term sustained advantage over other firms (Barney 1991).

According to Helfat & Peteraf (2003) there are firms that continue to be competitive and are ahead of their competitors due to resources possessed internally that gives the advantage over

competitors. One assumption of this theory is that firms do possess different resources. As a result, heterogeneity of the resources create one of the foundational pillars RBT, where organisations are able to distinguish themselves from others thus creating competitive advantage. When firms possess differing resources it aids in how they can set-up their unique selling point which develops competitive advantage as each company can perform in that special area better than their counterpart (Helfat & Peteraf 2003). Another assumption of this theory is resource immobility. This is the ease of how one firm can access information about resources held by another company that can help in how they strategically approach their operations (Barney 1991). However, the characteristics and features of an organisation would not simply change, but if the company becomes sustainable then it must adjust to its orientation. As a result the impetus of the RBT transcended from the work of Barney (1991) who basically investigated strategic resources and was critical to how resource based view is now changed. There is however, a limitation of the RBT as the theory fails to outline how and why there are some businesses with competitive edge in unpredictable times and where there are quick changes in the environment (Adner and Helfat 2003). The covid 19 pandemic created much unpredictableness in the environment and the use of the RBT aided how they operated in that time.

However, there is the argument that a wider perspective of RBT can create advantages beyond the use of assets that are considered to be critical but developing fixed and current assets whether tangible or intangible where capabilities such as skills and various learning habits are enhanced. The idea of the theory or view is that firms with valuable assets can be more sustained in possessing the competitive edge over competitors, this is due to the fact only if these resources are constantly and not easily imitated by other companies in the industry of other competitors (Barney 1991). Therefore, businesses are better able to continually redesign and arrange

resources to create products that customers need and are in high demand (Adner and Helfat 2003).

Capabilities is another central concept of the RBT. This is essential as Covid-19 pandemic required MSMEs to be able to use their capabilities to survive. Capabilities look at non-transferable resources that are specific to a business and the goal is to enhance productivity by acquiring resources (Makadok 2001). According to Kozlenkova et al (2014) capabilities can be seen in both tangible and intangible resources that aid the business to be better at procedures, processes and the products. However, in a changing environment such as the Covid-19, Teece et al (1997) dynamic capabilities construct fits ideally with the situation of covid-19. The concept posits that capabilities could be continuous, as upgrades and extension of the assets within a business are critical for sustainability (Acedo et al 2008). The concept has been said to enhance the RBT as it deals with quick changes within a business environment both internal and external.

Resource Based View and Entrepreneurial Orientation

The concepts of entrepreneurship and resource based view are closely related and interrelated (Bacq & Eddleston 2018). Resources that are converted from inputs to outputs are the basis on which entrepreneurial opportunities exist (Shane and Venkataraman 2000). The resource based framework has been used in many studies on entrepreneurship as it is based on new visions in entrepreneurial decision making processes (Conner 1991; Alvarez and Busenitz 2001). It is argued that Resource Based View (RBV) deals with heterogeneity of resources whereas on the other hand entrepreneurship focuses on heterogeneity in beliefs about the resources (Alvarez and Busenitz 2001). Earlier research on RBV postulated that this theory is about a firm's competitive advantage based on a special and unique set of resources (Wernerfelt

1984; Barney 1986; Peteraf 1993). Further to that, according to Barney (1991) he states that it is mainly about how the internal strengths and weaknesses are based on two key assumptions. He believed that firms possess bundles of productive resources and secondly that some resources can be very expensive and possess inelastic supply. Irava and Moores (2010) on the other hand, argued that the belief of heterogeneity may result in the perception that resources are robust thus creating a connection between RBV and entrepreneurship as a valued added assertion. The first concept of resources in literature was first introduced by Penrose (1959). A firm is an independent unit that uses resources to create and sell products (Penrose 2009). The idea of this theory as proposed by earlier researchers states that a business's competitive advantage is derived from its resources, where this advantage is not as a result of industry composition but the capability of the organisation to utilise its resources at the optimal level through the development of its internal strengths (Barney 1991).

In essence, the idea of RBV theory is that resources owned by firms should be able to be utilised to generate profit and minimise losses (Miller and Shamsie 1996). Heterogeneous resources are essential if a firm is to perform at a high level and these resources should also be difficult to be copied, recreated and imitated by other firms. Resources are the capabilities of the firm, by extension it looks at the procedures and processes of the operations and tangible assets. It encompasses all the knowledge and information that a business uses to advance itself and to meet the goals in an effective manner (Barney 1991). Resources can be internal or external, where internal resources would include the brand management and capabilities as it relates to Research and Development, whereas, external deals more with customers, suppliers and technological changes (Li & Cologne 1998; Lewis et al 2010).

Amit and Schoemaker (1993) defends this theory as they postulated that there is diversity of firms in markets where there are imperfections and variations in specialisation that breeds a barrier to how resources are transferred. This therefore supports the point that resources can be tangible or intangible. Intangible resources refer to knowledge entrepreneurial orientation and other aspects of a business that can be handled or touched. It relates to the capabilities, the social benefits and the knowledge acquisition within the organisation (Karanen and Kalkala 2013). On the other hand, tangible resources include capital, location and other aspects that can be felt (Runyen et al 2006). It further refers to the resources that are visible providing economic benefits and gains such as products (Lyons and Brennan 2019). According to Barney (1991) there are three categories how a business's resources can be grouped. They are physical, human and organisational capital resources. Physical assets are those that are tangible such as plant equipment etc. Human capital focuses on the intellect of employees, their training and experience, whereas organisation resources deal with the structure of the firm in terms of chain of command, span of control, communication channels and all other formal and informal structures (Barney 1991). With this outlined Peteraf (1993) claims that the primary reason for growth and success of a firm is the resources and capabilities that gives advantage to that company. Numerous researchers have argued that resources by itself do not suffice for a firm to have the competitive edge (Barney 1991; Chandler and Hanks 1994; Day 1994). As a result Mahoney and Pandian (1992) is of the view that resources can only give this competitive edge if the firms possess the capacity to transform resources into capabilities. Therefore, a firm can reach the optimal level of performance not only due to better resources but also due to their distinct competences (Penrose 1959).

Resources according to Barney (1991) are considered to have the following characteristics, Value, Rareness, Imperfect imitability and Non substitutable (VRIN), which impacts the sustainable competitiveness advantage of a firm. However, these resources lose value if a large number of other firms simultaneously own similar resources. Therefore, the fewer firms that have these identical resources the greater the advantage for a firm. Strategic innovators are considered to be valued and rare and this as a resource gives advantage over competitors, but these can only be sustained if other firms are unable to replicate the same (Barney 1991; Barney and Clarke 2007). Features are different when it comes to observing intangible and tangible resources, as there are differences in terms of use and deterioration. Intangible resources can be used simultaneously and they do not deteriorate and according to Molloy et al (2011) cannot be exchanged easily as this deals with skills and knowledge of the business. Tangible however, needs to be maintained and is unavoidable of depreciation and may be not be possible to be utilised simultaneously with other managers (Molloy et al 2011).

However, the VRIN framework faced numerous crisis from authors such as (El Shafeey and Trott 2014) who believe that non-substitutability is a form of imperfect imitability and as a result should be separated from the VRIN criterion (Black and Boal 1994; Kova 2015). Criticism also came about Barney's (1991) model, due to the fact that the model does not address the issue of how resources are acquired and sustained in firms in changing competitive business environments (Priem and Butler 2001). In the era of COVID-19 the model needs to be able to stand the rigor of how firms adopt social media. Other researchers such as Grant (1991) and Kraaijenbrink et al (2010) criticized the model and cited that the model is not applicable and practical in relation to real resource management. These criticisms led Barney (1995) to adjust the framework to VRIO instead of VRIN. He implemented the O for organization elements.

The new model now stresses the point that it is not only about possessing resources to have superior performance but it also depends on the capacity of the organization to use the resources. Subsequently, it's important for the company to possess proper systems, processes and procedures to include reporting structure, compensation policies and effective internal control mechanisms (Barney and Clark 2007). Therefore, to integrate entrepreneurial perspective and resource approach may give varying views of the desired outcomes of the resource engagement process (Kellermanns et al 2016).

Garnsey et al (2006) state that entrepreneurship is a process of searching for opportunities constantly and mobilizing resources that result in the creation and delivery of new value. Therefore, entrepreneurs have the task of discovering and unearthing appropriate resources that can be combined and used appropriately (Stringfellow and Shaw 2009; Firkin 2001). It is the duty then of the entrepreneur to regularly modify the resources by investigation and looking for how a combination of resources can be utilized to generate lower cost and or higher quality than that of competitors. In addition the results and outcomes in entrepreneurial orientation is to become competitive in nature (CBS SMG and Foss 2011; Mosakowshi 1998). Entrepreneurial activities rise when knowledge and experience within the industry is harnessed. Therefore entrepreneurship is not just for economic rents (Mosakowski 1998). As a result the starting point of entrepreneurship is not analysis of the industry or market segments similarly that the starting point of a sustainable strategy is not Porterian analysis of the environment (CBS SMG and Foss 2011). It is evident then that the same characteristics of entrepreneurial resources are the same for the resource-based view, it has heterogeneity, tacitness, social complexity and idiosyncratic nature (Alvarz and Busenitz 2001; CBS SMG and Foss 2011).

In the resource based-view, heterogeneity is a characteristic (Peteraf 1993) and this is similar in the concept of entrepreneurship as this forms the basic premise on which entrepreneurship is based (Foss et al 2008). However, in contrast with this view there are other researchers who believe that resource heterogeneity is more implicit in nature where there are differences in perception of value for different resources (Alvarez and Busenitz 2001). As a result, heterogeneity is more of a concept or beliefs about the value of entrepreneurial opportunity which are derived from these resources which are considered as rarity. For example, where in cases there is limited financial capital for an entrepreneur to start up a business, the entrepreneur normally depends on the his network of whom he is acquainted within his social network, which is easy to access for the entrepreneur him/herself but more challenging to access with other economic actors (Alvarez and Busenitz 2001). In essence, as postulated by Foss et al (2008) entrepreneurial creation of new value lies in the mobilisation of different and various forms of intangible resources , for example, expertise, experience, knowledge, reputation, social capital which is critical in creating sustainable competitive advantage (Oliver 1997; Grant 1991). The resource base is made of intangible resources which is difficult for others to imitate or copy due to the level of dependency on the entrepreneur. The concept of causal ambiguity speaks to the difficulty to understand processes and to accumulate experience which forms the foundation of entrepreneur absorptive capacity and extending knowledge which is beneficial for entrepreneurial innovation (Alvarez and Busenitz 2001; Barney et al 2001). Innovation then is the idea of using the resources to create sustainable advantages (Kostopoulos et al 2002). Therefore entrepreneurship and resource based views are intertwined and have a close synergy relationship (Foss et al 2008).

There are, however, divergent views of Resource Based View (RBV) and entrepreneurship and one should be aware of the differences (Barney et al 2001; Alvarez and Busenitz 2001; Kellerman et al 2016). RBV focuses on the capabilities of companies and it primarily focuses on large corporations whereas, entrepreneurship looks at the actions of entrepreneurs and owners of mainly small establishments (Kellerman et al 2016; CBS SMG and Foss 2011). In RBV the analysis and central focus investigate resources of the firms (Tipuric 2014) whereas entrepreneurship is where there is inseparability of founders with his or her entrepreneurial venture (CBS SMG and Foss 2011))

Entrepreneurial Orientation and Firm's Performance

The process of Entrepreneurial orientation is essential to growth within the Micro Small and Medium Enterprises (MSME) industry. Storey (1994) postulates that there are three components to dealing with the EO and growth. This outlines the characteristics of the entrepreneur, the type and characteristics of the MSME business and the development strategies of the firm. Whilst these correlated they all impact the growth of small businesses in a combined way. Numerous research has proven the relationship between firm performance and the unidimensional view of EO. Researchers such as Awang et al 2009 and Hughes and Morgan 2007 have conducted research to demonstrate and prove the multidimensional conceptualization of EO. Autonomy as described is important for EO and a firm's performance. It is essential for leaders to act with autonomy. According to Dess and Lumpkin (2005) the encouragement and motivation of entrepreneurial thinking is a key driver for a firm to develop and possess competitive edge. Autonomy is a primary factor that develops flexibility that allows firms to respond rapidly to the myriad of changes in the environment and markets (Hughes and Morgan 2007). This is important for MSME in this time of COVID 19. A number of studies support and

defend autonomy in an enterprise, as autonomy aids MSMEs to become more competitive and enhances performance (Awang et al. 2009; Coulthard 2007). Improvement in a MSME performance can be due to the level of competitiveness and aggressiveness by rivaling the competitors in the market. There is a correlation between competitive and firm performance based on studies done by researchers (Lumpkin and Dess 1996, 200; Frese et al 2002). There are a number of studies that support the role and impact that innovation holds in a firm being competitive and maintaining a high level of performance (Hameed & Ali 2011; Coulthard 2007; Hughes and Morgan 2007).

Wiklund & Shepherd (2003) postulate that firms performance is normally explained with the aid of an investigation firm's EO. However, the results from numerous studies have been mixed. Studies done by Hameed & Ali (2011), Awang et al. (2009), and Hughes & Morgan (2007) have produced results to indicate a positive correlation between EO and firms' performance. On the other hand, there are other studies that did not find any correlation, such as Lee et al. 2001; Covin et al. 1994. In the literature, there are still varying results, as Bhuian et al. (2005) have indicated that higher EO levels are not essential for a firm to perform better based on the markets and other conditions. However, Rauch et al. (2009) believe that the differences to these results are dependent on the methodologies employed and the research samples utilized. Fatima & Bilal (2019) believe that through globalization and increasing competition, SME with higher levels of EO are more likely to perform better. Despite the numerous studies, there still remain questions about the EO and firms' performance and which EO measures produce the most reliable results.

MSMEs are stated to be critical to the growth of an economy; hence, the impact of this sector must be as a result of the growth of the various types of businesses. Therefore, internal

growth at the early stages, where learning is essential, and external growth as it pertains to market position is vital (Garnsey et al 2006). Entrepreneurial behavior is subsequently at the forefront of these MSMEs that drive growth (Davidson 1989; Green and Brown 1997). Firm's performance has become a growing topic for research in the Covid-19 era. Therefore to view entrepreneurship as only to start new ventures would be minimising the field of entrepreneurship as argued by these authors (Davidson et al 2002).

Storey (1994) summarises the three basic elements of the process of growth with small firms. These are 1: The characteristics of the entrepreneur, (2) the characteristics of the small firms and (3) the development strategies of the firm. With these three components a small firm is likely to grow. The dimensions of EO is an essential ingredient when investigating how small firms grow. According to Miller (1983) he postulates that firms that are entrepreneurial are more engaged in innovation of the product and bear some risk while being proactive and innovative enough to come out ahead of the competitors. However, a non- entrepreneurial firm is highly risk averse and copies the competitors.

As stated above EO is about the willingness to innovate, take risks, being motivated to engage in self-directed actions, being more proactive rather than reactive as the company seeks to grab the opportunities in the market (Lumpkin & Dess 1996; Wiklund & Shepherd 2005). There are five dimensions of EO even though the earlier researchers proposed three. According to Miller and Lumpkin (1983) and Dess (2001) the EO dimensions are risk-taking, proactiveness, competitive aggressiveness and autonomy. The literature about entrepreneurship has demonstrated that survival and performance of firms is important and critical (Wiklund 1999; Zahra & Garvis 2000). The empirical evidence from the two sets of the aforementioned researchers indicate how performance within a firm is affected by the level of entrepreneurial

orientation. It is critical to highlight that resource-advantage theory is an organizational resource as postulated by (Hunt 1995; Hunt and Morgan 1996). With such resources other researchers have found that this can be the differentiating factor between firms competing in similar sectors and industries, where one can possess superior financial status and wealth creation over another firm (Shane & Venkataraman 2000; Ireland et al 2003). EO gives the firms the capacity and ‘know-how’ of how to exploit and discover new market opportunities (Lee and Pennings 2001; Barringer and Bluedorn 1999; Wiklund and Shepherd 2003). It is also key to note that with EO capabilities firms can respond to challenges and uncertainties within the market (Lumpkin & Dess 1996; Shane & Venkataraman 2000) especially in this time of uncertainties with the Covid-19 pandemic.

In a number of previous research firms’ performance assessment was done using various different metrics and factors such as return on equity, cash flow return on assets and revenue outcome (Haber and Reichel 2005). However, it is argued that these factors and metrics are necessary to measure and assess performance but they are not sufficient to give an accurate overview of a firm’s performance (Aggarwal & Gupta 2006; Clark 1999; Murphy, Trailer & Hill 1996). As a result there are researchers who have suggested the combination of using both financial and non-financial measures to portray a more comprehensive evaluation of a firm’s performance (Clark 1999; Haber & Reichel 2005). It is essential to highlight that perceived non-financial measures can be subjective as these indicators include perceived market share and sales growth, perceived customer satisfaction, and brand equity and product loyalty Clark 1999; Haber & Reichel 2005). Aggarwal & Gupta (2006) posit that there are other measures that can be utilized other than financial and nonfinancial, they then proposed that a firm's performance can also be measured using internal and external measures. These internal measures and standards

focus on the interests of stakeholders within the company, whereas, on the other hand, the external measures are about customers, suppliers, competitors, and other external market indicators. There is also the view that assessments can be made based on output and input perspectives. These output measures look closely at the key goals and stress on profitability and the end results of a firm. The input measures are activities and tasks that are tools employed to achieve desired end results (Aggarwal & Gupta 2006; Clark 1999).

A vast quantity of work has been done to highlight the interconnectivity of entrepreneurial orientation and corporate performance. Entrepreneurship research commenced in the United States of America (USA), and up until the 2000s most of the research was conducted in that region. It was after this era that Wiklund and Shepherd in 2003 from Sweden, Antoncic and Hisrich in 2001 & 2004 from Slovenia, Hughes and Morgan from the UK in 2007, and others from China, Vietnam, Thailand, Finland, Germany, and South Africa joined the investigative work of entrepreneurial orientation. This shows that more work needs to be carried out in other areas of the world. Consequently, with this body of work conducted, the impacts of EO on firms performance have not always been evident. A meta-analysis study was done by Rauch et al. (2009) showcasing the connection between EO and corporate success. With a total of 51 papers used for the analysis, all demonstrated that there is a substantial correlation of EO to firms performance. The researchers indicated that the control variable that was responsible for the statistical insignificance was the cultural variations. Of the 51 publications, only four found mixed or no significant findings. Interestingly, in a number of other studies found no significant correlation between firm performance and entrepreneurial attitude; these included work from Slater and Narver 2000; and Walteret et al. 2006. Covin and Slevin (1989) found no substantial

relation between entrepreneurial mindset and the performance of a firm in a favorable environment but hostile environments has stronger correlation, such as the covid-19 pandemic

In entrepreneurship literature, however, there is a lack of information providing guidance on how performance should be measured considering the difficulties on how to properly define performance (Brush and Vanderwerf 1992; Haber and Reichel 2005). Through detailed investigation of 51 published studies on entrepreneurship with a focus on performance as the dependent variable carried by Murphy et al. (1996), he found that the most highlighted measurement metrics are efficiency, growth, and profitability. This therefore sets the basis and foundation for this paper and will focus on efficiency, growth, and profit as key indicators of MSMEs performance within the Jamaican context. This is supported by a number of studies that claim that the dimensions of entrepreneurial orientation can lead to growth of market share (Ireland et al. 2003; Shane & Venkataraman 2000) and firm performance (Wiklund and Shepherd 2003; 2005). Growth is a broad concept, but this study looks at an increase in sales, employees, and market share. Efficiency deals with return on equity and return on investment, and profit includes the returns on sales revenues.

Innovativeness

Innovation as an EO dimension deals with the aspect of developing and supporting novel ideas and products that are new and different so that new products and technologies can be made (Lumpkin & Dess 1996). According to Zahra and Garvis (2000), when a company is innovative in its approach, they may possess a wider knowledge base, which can be exploited to give them the competitive edge, especially with a homogenous market. It is introducing and creating new goods and services that separate them from the competition. Innovation then is the process

whereby a business develops products that give and maintain the competitive edge of the business (Otero et al 2009). This concept is accepted and agreed on by numerous researcher who consider innovative to be a resource that gives companies the advantage as this type of resource is deeply rooted and ingrained in the dynamics of the firms and is not easily replicated by other firms which supports the concept of the resource-advantage theory (Barney 1991; Hun and Arnett 2006; Hunt and Morgan 1996; Nonaka 1994). In this case if firms are committed to the process of innovation then it gives them the path to renew operations within the marketplace and bolster the likelihood of them becoming more profitable (Lumpkin & Dess 1996; Zahra and Garvis 2000).

Creativity as an element of innovation generates new ideas and thoughts that are the basis of new innovations, new products and new procedures and processes (Landstrom 2005). Creativity then can be seen as a link to innovation where mental capacity drives individuals to discover new ideas that can be implemented into products (Covin et al 2008). The importance of a business inventive ability is essential in a swift technological advanced environment. Innovation then becomes essential for companies and can operate as a precursor in implementation of the ideas (Kreiser et al 2002). There are different views of innovation from different researchers and how it impacts on performance. According to Coulhard (2007) innovation has little to no impact on performance, whereas others felt that innovation does impact performance of firms but this can be interpreted differently and hence the views are different as to how innovation impacts performance (Massa and Testa 2008). Research has shown that there are two major types of innovation, namely incremental and radical innovation. Incremental innovativeness deals with small changes and modifications that result in

improvement of products, whereas, radical innovation is making significant changes by developing new prototypes and coming up with new ideas (Otero-Neira et al 2009).

According to Saunila and Dan (2014) innovation is the ability of the firms to create new products and come up with new ideas especially in an unpredictable business environment. The idea is to create these new goods and services in a transformative manner that gives the competitive edge to the firm (Su et 2020). Innovation can take the form of product innovation, process innovation, marketing and administration and service (Akande et al 2010). Innovation can also aid entrepreneurial orientation when it comes to a firm's performance. Prior studies have shown different findings when it comes to determining the relevance of innovation to a firm's competitiveness (Otero-Neira et al 2009, Massa and Testa 2008). When looking at the concept of innovation as a sub-dimension of entrepreneurial orientation, policymakers, entrepreneurs and even academia all view the meaning and interpretation of innovation differently. As a result the treatment of the concept in relation to business performance is different (Massa and Testa 2008). Other researchers such as Coulthard (2007) consider innovation not to be the most substantial dimension when it comes on to business performance. However, Aloulou & Fayolle (2005) argued that innovation is one principal dimension when businesses consider developing new products and processes.

In essence innovation according to Lumpkin & Dess 1996 and more recently Fadda (2018), is the drive of a business to create and develop new goods and services and technological development through creativity. It is business innovativeness that involves experimenting and creativity that can propel a business in becoming a leader in technology. During the covid 19 pandemic and the unsettled and turbulent environment it is through the innovativeness that businesses were able to be practical with how resources were used. Additionally, the innovation

is known as the ability of the firm to adapt to a changing market environment and develop ways of handling the issues with creative and viable solutions (Gorostiaga et al 2019; Wikland et al 2021; Soedarmono et al 2019). Radical innovation is where the business develops new skills and ideas whereas incremental innovation is working on enhancing existing skills and competences (Le 2020).

Risk

Risk-taking as another dimension of EO is the willingness of a firm to engage their resources in projects where the results may be uncertain (Wiklund & Shepherd 2003; Zahra & Coven 1995). Researchers such as Frese, Brantjes & Hoorn 2002; believe that the tendency to engage in risks as a firm may positively relate to success, this is so because if new businesses and start-ups are more oriented to take risks then they may gain opportunities to achieve higher returns. According to Miller and Friesen (1978) risk is the extent to which leaders show willingness to use resources that are at a high level of cost if there is a failure.

The propensity to directly and intensely challenge competitors is competitive aggressiveness, where the business is willing to sacrifice large amounts of resources in the quest for high returns if success according to Lumpkin and Dess (1996). To constantly compete for resources that may produce market advantage is based on the resource-advantage theory (Hunt 1995). Therefore, a firm that can produce and develop a product that is unique and fits a particular segment once its done efficiently and effectively is more likely to be successful (Hunt and Arnett 2006). Prior studies have shown that entrepreneurs are more likely to take risks than non-entrepreneurs even though they were not prepared about taking risks. It is that entrepreneurs see and search for opportunities more than seeing the risks, even though it could be considered as

uncertainty, where the risk takers are driven by the pursuit of uncertainty to impact performance (Palich & Bagby 1995). Rauch et al (1995) in their study found that risk-taking contributes in a minimal way to performance whereas other researchers saw insignificant correlation between risk-taking and performance (Lee & Sukasame 2009).

The background to this stems from the fact that leaders and most decision makers will stay away from risks due to uncertainties in the business environment, which extends to the cultural background, the business and government environment and the attitude of the owners and managers of business that are fed from low degree of tolerance to risks (Naldi et al 2007). The covid- 19 pandemic created uncertainties and chaos and theoretically and practically this can be shown as a way of affecting risk. With the great degree of uncertainties during the covid 19, businesses were forced to figure out ways to handle risks as there were various types of uncertainties.

Proactiveness

If a firm is proactive it is more likely that the firm may possess the ability to anticipate changes within the market and better understand the needs of customers (Lumpkin and Dess 2001). If a firm is proactive then it is more likely that they can develop and introduce new products ahead of competitors (Hunt and Arnett 2006). The proactive firm is more likely to be the first movers and they are normally rewarded with the market position that they gain due to the mentality of being forward looking. These companies tend to gain competitive advantages such as better distribution channels, brands are more recognized, customer loyalty is higher and their returns tend to be better than the other firms that are afraid to be proactive in their approach (Lee et al 2001 Lumpkin and Dess 2001). Proactiveness is taking the risk and the initiative to

pursue opportunities in the midst of adversities. A market leader in the respective industries are normally characterized by their proactiveness as these companies are normally the ones that seize opportunities when presented. As a result, Lumpkin and Dess (2001) postulate that proactiveness is shown when a company can respond to challenges in the market such as the covid 19. The proactive dimension of entrepreneurial orientation deals with the ability of the business to forecast and implement strategies that can seize the immediate opportunities and to give competitive advantage over competitors. It is the thrust to implement new strategies and products whilst thinking ahead of the competition (Rauch et al 2009).

Coulthard (2007) is one of the many researchers who have investigated the correlation of proactiveness with firm performance. Proactiveness can be observed at the various stages of a company or product life cycle (Hughes and Morgan 2007). It has also been confirmed from research that innovation and proactiveness are the two dimensions that demonstrated positive correlation to performance. The other dimension showed a negative relationship for risk and no impact for the other dimensions. These results came from a research about how new technology companies performed using the dimensions of entrepreneurial orientation (Hughes and Morgan 2007). It can be concluded that proactiveness is a driving factor when new and developing companies are working towards acquiring market share within an industry, however, as the business develops this dimension may possess less significance to performance. The companies that are proactive in nature are able to handle the challenges of the market and the environment, and resources owned and controlled by these businesses are more effectively and efficiently used in comparison to companies that are not.

When firms are competitively aggressive then they are better able to redefine the rules of the industries, push boundaries to achieve advantage and improve their position within the

market. As a result, they can outperform competitors and gain market share (Lumpkin and Dess 2001). Autonomy as an EO dimension is the willingness and the capability to self-direct in terms of actions and to pursue market opportunities. This dimension allows firms to be quick and self-reliant in the decision making process of new markets and about products and services (Frese et al 2002; Lumpkin and Dess 1996). In essence a firm with good entrepreneurial orientation is more likely to be a firm with a good performance level. It is encouraged for firms to be innovative, proactive, risk-takers and display a level of autonomy.

In essence Wiklund and Shepherd (2003) found that there's a relationship between EO and a Firm's performance. Therefore, Entrepreneurial Orientation (EO) has a positive influence on how a firm performs. Other studies done by Zahra 1991; Wiklund 1999 show empirical evidence also that there is a positive and significant relation between EO and performance. However, there is also research done by Lumpkin and Dess 1996 that indicate that internal and external environments also impact on the relationship between EO and firm performance. It is also seen in later studies done by Lumpkin and Dess that Entrepreneurial Orientation dimensions are not covary but rather varied independently, this resulted in the case where they found that competitive aggressive had little relationship with firm's performance whereas proactiveness has positive association with performance. Zahra and Covin (1995) longitudinal study also indicate that there is a relationship with EO and firm's performance but to some degree. However, Morris (1998) demonstrated that Entrepreneurial Orientation has a significant link and importance to a firm's survival and growth and also for the economic growth of a nation.

Social Media Network

Social media sites (SNS) as defined by Boyd and Ellison (2007) is a web-based service that allows individuals to 1. construct a public or semi-public profile within a bounded system and 2. articulate a list of other users with whom they share connections and 3. View and traverse their list of connections and those made by others within the system. However, Kane et al (2014) claim that social media evolved over time and state that these sites have extended their functionality. Borgatti and Foster (2003) created a two way framework that consists of four types of social networks: Contagion networks, environmental shaping, structural capital and resource access. Kane et al (2014) using the framework outlined by Borgatti and Foster (2003), to assess the implications of core social media platforms in the bid of understanding how these platforms induce homogeneity. The result indicated that multinational companies have the largest usage of social media platforms. Below is a list of social media platforms that are employed by various companies especially in this time of Covid-19.

1. Facebook: The platform was launched in 2004, which is a social networking service reaching users across the world (Jae-young 2016). The platform is online and users can create user profiles to exchange information with friends. Users can also join groups of common interest which can be categorized into various groups such as school, workplace and other unique characteristics (Facebook 2013).
2. Twitter: This is a microblogging site allowing for messages to be posted in real time or updated (Purohit et al 2013). It is argued by researchers that this platform provides opportunities for companies to personalize communication with those who follow the company's twitter feed (Twitter 2013).

3. Youtube: this is a video-sharing site where as a user videos can be uploaded through your profile and views of videos are allowed easily. It is one of the world's most used platforms (youtube 2022). According to Dehghani et al (2016) the younger set of people are those who mainly use youtube.
4. Linkedin: This is a professional social network connection professionals. The largest professional network in the world. The purpose of linkedin is to aid with recruitment, making connections on a professional level. (Linkedin 2022).
5. Instagram: This is an application where photos and videos can be shared free. The members can also follow groups and individuals, they can view, write and like posts. The platform is for anyone older than 12 years of age (Instagram 2022).
6. Foursquare: This is a website where users can search and review information about facilities and events in current geographical locations. It is cloud based leading technology (Foursquare 2022).
7. Pinterest: this an application where photos are shared and users can access images based on collections and themes. It is also possible to pin boards of other people's collections (Pinterest 2022).
8. Tumblr: The platform is considered to be a cross between facebook and twitter. It is a microblogging social platform where you can post images, photos and videos. (Tumblr 2013)
9. Company Blog: A social network that lends for discussions where customers can leave comments and interact while online. It can also be utilized for brand advertising (Blog 2013).

The definition that was first given has seen significant changes as new development and evolution are taking place in the realm of social media. As a result Ellison and Boyd (2013) gave an update to the definition to which is utilized here. They argued that 'boundedness' in the areas of SNS have been relinquishing as these network sites possess more functionality beyond what is on a website. There are numerous platforms that are now designed to augment a website and app where data can now be available in the focal platform (Ellison and Boyd 2013). In the instance of Facebook that introduced an 'open graph' in 2010 where new functionalities can be added and integrated into the platform. Therefore, third party apps can be integrated with Facebook and content can be shared across the platform due to the functionality. As a result, now the boundedness of apps are less defined as in the past, now apps can be used and integrated with each other.

There are still arguments that have counteracted Ellison and Boyd's (2013) view of social network sites (SNS) as they view the sites as distinct types. However, opposing arguments from Kane et al (2014) who claimed that referring to social media networks is more ideal to be used as there should be a terminology change due to the core features to other internet sites can be integrated. In addition, they believe that the terminology change is more fitting in today's society as technology has become more advanced. Here is also the argument that the nature of user profiles has changed due to the need to have a deeper understanding of how users are represented in the use of networks. On the other hand the point is refuted by Ellison and Boyd (2013) who see the user profile as an explicit construct where it is dependent on the user to complete a form and create his/her profile, as a result the profile is created based on what answers are given using descriptors such as location age etc.

User profile has developed more in recent times as there are extension features due to development of social media platforms. The user profiles are not just developed by pre-descriptors used by the user because now there is an automatic and passive record of user's activities that send data and aid in the development of the profiles, it is with this argument that Ellison and Boyd states that profile data are now made up of information from various sources that feed information into the various platforms. Naaman et al (2010) concur that where users garner information from a platform aid the development of user profiles data. The use of search engines such as google, linkedin are ways that contribute to how information is gathered about personal choices and skills.

The issue of safety, privacy and protection are concerns that need to be addressed considering that one can research and access information through the use of different search mechanisms. Research done by various authors such as Gross and Acquisti (2005) and McCreary (2008) highlight the significance of privacy as it pertains to social media usage seeing that the usage has grown. This issue however, has not been addressed by Ellison and Boyd in their updated definition of SNS. It is however fair to say that most networks possess robust built in security measures that can protect the users through control and access to some content. The control affects how information is accessed through search and information streams and how users can protect themselves from the information shared in search mechanisms (Kane et al 2014). In essence the Kane et al (2014) derived an updated definition as they presented four essential features 1. The profile should be made by the users as they are members of the platform which lends for uniqueness of the profile 2. Implement privacy mechanisms that protect the users digital data 3. Additional users can be added due to the shared relational connections 4. Views can be made by others on the platform.

The aspects outlined exclude collaboration technologies that were used in the past such as e-mail and electronic discussion boards where users were not allowed to develop and establish their own profiles or lists of connections that could be viewed by others. According to Kane et al (2014) the technologies they referred to includes wikis, blogs or microblogs as these rarely possess systems where one can limit others from viewing. On the other hand, Ellison and Boyd (2013) do consider these technologies to be social media sites. It is also claimed that social media platforms are being widely used for various reasons than what has been previously expected. The Covid 19 pandemic has also led more businesses to utilize social media platforms (Sugandini et al 2020). According to Boyd and Ellison (2013) they believe that social media platforms are mainly for the purpose of maintaining existing social relationships rather than establishing new ones. Even though there are other researchers (Beer 2008) who criticized the use and choice of terminology used by Boyd and Ellison. Social media is being used for a wide range of social relationships and during this time of Covid-19 it is being employed even more heavily by companies who see their survival as critical at this time due to the numerous changes (Alon, Farrell & Li 2020). According to Kane et al (2014) celebrities utilize social media platforms as a way to connect with fans with whom they truly have no offline relationship. Organizations also maintain profiles with customers whom they interact with due which differs based on interpersonal relationships. People may also not use social media that involves personal interaction, such as wikipedia, tripadvisor, Amazon which may not involve personal interaction (Kane and Fichman 2009). As for many e-commerce sites the main purpose is to view and review products and not interact with other users. This somewhat is changing as more businesses now need to engage more with customers.

Crisis management during Covid-19

Pearson and Clair (1998 P.61) define crisis management as ‘a systematic attempt by organisational members with external stakeholders to avert crises or to effectively manage those that do occur’. Crisis management integrates with organisational theory and behaviour, corporate communications and strategy of the firm (Brundy et al 2017). The Covid-19 pandemic significantly affected industry revenue streams (M.T. Lie et al 2021). The model of crisis management was developed by earlier scholars who outlined a three-phase model to identify the crisis life cycle which include: pre-crisis, crisis response and post crisis (Coombs 2007). Palen and Anderson (2016) posit that information is critical at all the stages when there is a disaster. This aids the people to cope as real-time information and precise communication do help with managing the uncertainties. Social media is a way where data can be provided or professionals and practitioners who can contribute to the crisis management framework (Singh et al 2019), It aids with facilitating the flow of valid information (Roshan et al 2016), providing information and data as to why the crisis is happening and how to manage them in the future (Jin et al 2014).

In any business environment a crisis can be detrimental. Coombs (2007) states that a crisis is an unexpected event that has grave implications on organisation with financial and other consequences. The COVID-19 crisis has resulted in organisations having to develop strategies to drive resilience (Reeves et al 2020). A number of studies have been done on social media usage in crisis (Wright and Hinson 2008; Coombs and Holladay 2014). Numerous studies have also supported the idea that crisis is a disturbance to order in society and has the potential to affect working relationships between stakeholders and organisations that can be detrimental to a company’s image (White and Roman 2000; Kent et al 2003; Roberts and Dowling 2002). It is also argued that social media could be a potential threat to an organisation's image (Patriotta,

Schultz and Gond 2008). There is also the argument that most studies done on social media use in crisis management have been on large companies. However, SMEs are known to possess versatility and good customer relations (Irvine and Anderson 2006; Hong et al 2012). In essence, social media has been critical to the survival of SMEs during the Covid-19 pandemic (Sugnadini et al 2020; Akpan et al 2020).

The literature on social media impact in crisis has seen a number of studies that outline social media as a viable tool to impact the overall operations of the business (Seltzer and Mitrook 2007). Sweetser and Metzgar (2007) concur that blogs and twitter are effective tools and the platforms can allow for better communication giving more a humanistic feel rather than facebook. It is agreed by researchers that social media has become one of the biggest port of relating news of world events (Shirky 2009). Recents studies prove also that social media is essential for SMEs in lessening the severity of Covid-19 crisis (Indriastuti and Fuad 2020). Lu and Weber (2007) therefore argue that understanding the uses of digital tools is essential for organisations and that the world has become saturated with digital communication. Other researchers such as Wright and Hinson 2008, Coombs and Holladay 2014; Romantic et al 2014 all concur that social media has been integral to companies during crises as the tools are used to communicate with customers and to engage with the public in an interactive way. Kaplan and Haenlein (2016) agree that social media has transformed crisis communication as it lends to greater interactivity where creation, sharing and exchange of information can be done in seconds. However, some SMEs are reluctant to adopt social media due to behavioural, organisational, legal environment and the degree to which technology is perceived and accepted (Meske and Stieglitz 2013; Govinnage and Sachitra, 2019)

Social media has been helpful during the Covid-19 pandemic and the benefits and limitations are to be considered. According to Niles et al (2019) the use of social media has increased during the time of national crisis and disasters. The various social media platforms can be utilized by businesses and the public to distribute and disseminate information. It is recorded that there are more than 14, 479 articles on Covid-19 that have been written since May 19 2020. These platforms have been proven to be effective in how knowledge is translated, published and how information has been applied (Chan et al 2020). Gottlieb and Dyer 2020 argued that during the time where information is being changed rapidly it is key for users to keep up with information and social media can be the solution. There is a decrease in knowledge translation time as social media provides the platform for users to debate and analyse the information presented in real time and can address some of the internal and external validity of the findings (Grein et al 2020).

As a result in crisis management it becomes essential for top management to regulate and adopt a change of managerial skills and attitudes to handle issues (Najib et al 2021). It requires that the management of these MSMEs become conversant in utilising their entrepreneurial skills (Najib et al 2021). Entrepreneurial dictates that these businesses in crisis situations such as the covid 19 should work on innovation such as finding new ways of dealing with customers issues. According to Najib et al (2021) crisis management entails the strengthening of trust between stakeholders. MSMEs in central Jamaica were expected to work closely adhering to the new regulations and rules whilst developing mutual trust among their clients. The use of various social media platforms were key in how these businesses were able to function and manage the crisis. The utilisation of technology was not new to most of these businesses but due to the degree of disruptions in the market, these establishments were required to employ more

technology to handle the crisis. There is a growth in the number of studies covering crisis management for MSMEs. During the London riot, it was observed how small operations were to control and minimise the degree of losses (Doern 2016). The results showed that the adjustment of MSMEs owners was critical to how this was managed, as there was an increase in the anticipation rather than doubts. The pandemic created many issues for MSMEs during COVID-19. Therefore, handling this meant dealing with strategies covering the sum total of all aspects of the crisis, to include economic issues. Ogundana et al. (2021) cited that both internal and external stakeholders are important in this area to aid MSMEs, as they become susceptible to economic challenges during a crisis. Research has shown that MSMEs must incorporate innovative ways of handling marketing and other areas of the business if they are to be financially viable during a crisis.

Factors influencing the use of social media

Foux (2006) states that customers are more trusting of social media dissemination of product information than marketing messages through traditional venues. This helps companies to have more belief in the use of social media. There are two categories of social media adoption: (1) the depth of data and (2) the half-life of information, according to Weinberg and Pehlivan (2011). Therefore, a company may select a social media platform in relation to how these two factors are aligned to its marketing objectives. Factors such as compatibility (Wang et al. 2010), trust (Chai et al. 2011), cost effectiveness (Chong and Chan 2012), and interactivity (Lee and Kozar 2012) are some key determinants that also influence social media adoption. Therefore, it is argued by Zeiler and Schauer (2011) that small and medium-sized enterprises (SMEs) will probably take part in leveraging social media sites, provided that those sites present content of excellent quality.

Compatibility: Firms are inclined to accept and adopt the use of social media platforms if the technology is compatible with their present application systems. According to the Diffusion of Innovation Theory (DOI) theory compatibility is how innovation is aligned and fits according to the prescribed and existing adopters, such as existing values, the firm's current needs, and previous practices (Rogers 1983). Cooper and Zmud (1990) and Wang et al. (2010) postulate that one essential and critical factor of innovation adoption is compatibility. However, there are researchers who found negative and positive correlations of compatibility with technology adoption. A study was done in South Africa, and it was concluded that in order for technology adoption, it is necessary for the business to develop flexible IT infrastructure that accommodates the technology to be implemented (Brown and Russell 2007). It is also seen from other studies where companies are more receptive to social media adoption if they feel that the technology matches their values and beliefs (Hsu, Lu, and Hsu 2007). Ramdani et al. (2009), on the other side of the discussion, found in their investigation that compatibility is not a substantial variable in adoption of systems used in enterprises. In addition to that, Low et al. (2011) found an insignificant impact of cloud computing. It is therefore essential to study compatibility as a factor of social media adoption within any MSMEs.

Cost Effectiveness: Cost is an important factor if any organization is to consider social media adoption and usage (Ernst and Young 2001). Previous studies have cited that social media platforms are cost-effective as a variable to consider if wanting to adopt new technologies (Premkumar and Roberts 1999; Chong and Chan 2012). Also, Alam & Noor (2009) found that there is a substantial relationship existing between cost and social media adoption. Having low cost. Low barriers to engaging in usage and low skill levels for usage are some factors that SMEs consider to be ideal to adopt social media (Derham et al 2011). There is no doubt then that SMEs

will less likely want to adopt and integrate social media in their business model if the initial cost is high (Dixon et al 2002). Cost is known to have no significant impact on social media adoption according to Alam and Noor (2009). This was supported by a study done by Tan et al (2009) who indicated no significant relation between cost and social media adoption and intention.

Trust: Mcknight (1998) outlined two types of institutional based trust. Situational normality is when due to the normality of operations then success is anticipated and Structural assurance deals with the concept that due to contextual structures such as regulations then favorable outcomes are more likely. There is also informational trust where users want to sense credibility, reliability and accuracy of information obtained from social media (Chai et al 2011). For MSMEs it is essential that customer relation is improved and enhanced through the use of social media that can be trusted when ideas are shared and customer queries are dealt with through social media (Schaffer 2013).

Interactivity: Interactivity is a key factor for users to accept and use new technologies (Agarwal & Venkatesh 2002). When adopting social media, firms need to consider the design and how it will be implemented as the success is somewhat based on the interaction between human and technology (Lee & Kozar 2012). According to Mayfield (2008) facebook as a social media allows for two-way communication hence making it interactive, it is also agreed that facebook is an effective free online marketing tool but needs to be managed well (Handayani & Lisdianingrum 2011).

Technology in the form of Information Communication and Technology (ICT) is not only should be implemented or adopted solely for performance but there are other benefits such as networking and improvement in the quality of products and knowledge (Barba-Sanchez et al

2007). It is one thing to adopt social media platforms but the usage is essential for the fully benefits. As a result there are researchers who feel that more needs to be known about social media and ICT as its implementation in a business does not necessarily translate to increase performance. It is therefore essential for the concept of ICT or social media adoption to be understood (Thanomsing and Sharma 2024). Older studies have proven that adoption of social media did not really impact on the performance of the business (Lin et al 2011). In Jamaica Instagram and facebook are the most commonly used social media platform with 77.32% of use between both (Statista 2023). The use of social media has undoubtedly impacted the lifestyle and behavior of individuals in society. This change has not only impacted personal lives but in the many areas of society such as politics, engineering, education and businesses. In education social media platforms were implemented to aid teaching and learning. A study done by Kishniron (2023) showed that the Jamaican education system was greatly aided by the use of ICT during the Covid 19 pandemic. Other researchers outside of the region also demonstrated that social media does have an impact on education where teachers and students were able to interact with each other quicker and easier (Mardiana 2016).

Due to covid-19 health issues have become a more prevalent discussion as a lowering of health impacts the labour productivity and which inevitably affects economic conditions (Bambra et al 2020; Golding and Muggah 2020). Social media platforms have been utilised in this case of disseminating information easily and quickly. However, there were instances where social media was employed as a way of spreading incorrect information and for propaganda (Rodriguez Morales & Franco 2021). Social media has also been found to aid with motivating healthy eating and lifestyle (Ventola 2014). Prior research has also shown that social media is an

effective way for politicians to champagne and promote themselves and policies via social media (Hagar 2014).

Antecedents of Social Media adaptation

The Technology Organization and Environment (TOE) framework was developed by Tornatzky(1990) and has seen several studies exploring information systems problems and adoption of technology utilizing this concept.

Technology context

Technology context of the TOE framework looks at the internal and external factors that are appropriate to an organization. According to Chang et al (2020) these technologies can be within an organization or in the marketplace. Effendi et al (2020) state that the technology factor is assessing whether or not a firm has the required technical skills to benefit from technologies that are internal or external to the business. MSMEs adoption of social media platforms is greatly influenced by the technological context (Ramdani et al 2013). Numerous studies have found that there is a positive impact of relative advantage and the adoption of social media in MSMEs. Al Bar and Hoque (2019) postulate that the technological aspect of the framework is complexity, relative advantage and compatibility. This determines and reveals the advantages and downsides when social media is accepted by an organization. Relative advantage is defined as the ‘degree to which an innovation is perceived as being better than the idea it supersedes’ (Rogers 2010). Relative advantage is an important aspect in SMEs decision making process when considering social media adoption. Social media can be utilized as a cost saving effort as social media adoption can reach customers at a relatively low cost (Ainin et al., 2015). A study done in Saudi Arabia by AlBar & Hoque (2019) confirms that there is a positive relationship

between relative advantages and Information technology adoption in SMEs. It was also confirmed by Ahani et al (2017) that relative advantage is one of the most essential factors in social IT adoption. However, Ahmard et al (2019) noted in a study done in the Middle East that relative advantage has no significant relation to social media adoption in SMEs. According to Rogers (2010) compatibility is defined as ‘the degree to which an innovation is perceived as consistent with the existing values, past experiences and needs of potential adopters’.

Technology adoption is more challenging if compatibility as an aspect of the technology context is not present (Zhu and Kraemer 2005). Premkumar (2003) argues that one of the most essential factors that impacts social media adoption is compatibility. Numerous studies have found significant positive relationships with compatibility and ICT adoption. Complexity as postulated by Rogers (2010, p. 42) is the ‘degree to which an innovation is perceived as relatively difficult to understand and to use’. Social media adoption can be affected by complexity as new technologies may require extensive training (Zhu and Kraemer 2005). The degree of complexity of a new piece of technology may reduce the possibility of it being adopted (Low et al 2011). This aspect should not be neglected by firms wishing to adopt new technology.

According to Pee (2018) developing an understanding of the relative benefits of an enterprise’s social media presence may impact the information transfer and bolster organisational performance. The degree to which two or more people can communicate with one another through technology is considered to be interaction. Social media is a cutting-edge technology that presents ways to improve communication between MSMEs and their clients Kizgin et al (2020). MSMEs should adopt and use social media for areas such as marketing as these businesses tend to have limited resources. The level of marketing carried out by the businesses is said to give presence and visibility sometimes even more than bigger firms (Braojos-Gomez et

al 2015). Prior studies, focused on relative benefit, compatibility and affordability as predeterminants of technology adoption (Olanrewaju et al 2020). The exploitation of social media may be the impetus to give MSMEs more visitability in the market (Cesaroni & Consoli 2015).

Relative Advantage. The perceived relative advantage has been used by many researchers who view this concept as the influence that is placed on the implementation of new technology (Alismali et al 2020; Sugandine et al 2020). The factor was proposed by Rogers (2003) which he defines as the personal viewpoint that assumes innovation is better than existing technology that he believes is critical in making decisions about adoption. This concept was concurred by Chong and Olesen (2017) who postulate that the relative advantage of a firm will consistently influence the decisions made about adoption of innovation. Rogers (2002) therefore, defines relative advantage as the individual view that innovation is better than existing technologies therefore adoption is more probable if the perception of relative advantage is accepted. It is accepted by scholars that organisations are more receptive to adoption innovation if it brings better performance to the firm (Nedbal & Steininger 2014; Oliveira et al 2014). According to Alismaile et al (2020) 158 organisations that utilised the relative advantage concept in adopting technology improved their performances.

Complexity. Complexity is defined as the degree to which using technology innovations present difficulties (Chong and Olesen 2017). Earlier researchers such as Gallivan (2001), viewed complexity as being with both implementation and the use of the technology. As a result Chong and Olesen (2017) argued that complexity in technology adoption does affect and impact adoption on social media platforms negatively on Small, Medium Enterprises. Equally other researchers such as Religia et al (2021) states that adoption of e-commerce in businesses is

affected by the complexity of technology employed (Zhai 2010; Wu and Chuang 2009). Porter (2012) states that if employees possess the experience and ‘know how’ and are confident in their abilities to do excellently in their tasks then they will be more receptive to accept technology. Complexity influences user's perception and it has been reported that users are afraid to use information technology due to rejection on social websites Ali et al 2015). However, Tahar et al (2020) found that if users have a perceived ease of use then it positively impacts attitudes toward e-filing adoption in Indonesia. It is concluded therefore that, Micro, Small and Medium Enterprises that possess the confidence and experience in how to use technology are more likely to adopt technology (Yaseen et al 2017; Sugandini et al 2020). From research done in UAE it has also found that social media implementation influences performance and that there is a positive correlation between complexity and social media implementation.

Compatibility. Rogers (2002) defines this aspect of the technology factor as the degree of needs, beliefs and experiences an adopter considers when to be compatible with the technology being considered. However, the Diffusion of Innovation (DOI) theory defines compatibility as how compatible innovation is with existing systems. El-Gohary (2012) posits that compatibility makes it easier for SMEs to adopt digital marketing tools. However, reliability is key in order for technological innovation and it's necessary for consistency with the organisation system to prevent the adoption process from failure. Nguyen et al (2020) concur in their research that when existing systems and emerging technologies are compatible the social media adoption is easier then if there is a lack of compatibility.

Organizational context

According to Ramadi et al (2013) the organizational context is considered to have a positive influence on social media adaptation in SMEs. The organizational context refers to the top management, employees, procedures, processes of an organization, the organizational

structure and all resources pertaining to the firm (Tornatzky and Fleischer 1990). Numerous studies have outlined and identified several organizational factors and one is top management. Top management support is essential if social media adaptation is to be successful (Ramadi et al 2013; Albar and Hoque 2019). Lin (2014) argued that it is the role of top management to create the environment and provide the required resources in order to create the pathway for technology adoption. As a result, Thong and Yap (1995) postulate that if Managers are more receptive to innovation then it is likely that the SME will be more prone to adopt IT. In addition, other studies have highlighted that top management's knowledge of technology is a benefit and the prescribed expectations of a firm are important adoption predictors (Chaung et al 2014, Awa et al 2015, Yoon and George 2013). In a number of previous research the factor of firm size is also critical to social media adoption (Wamba and Carter 2016; Ramadi et al 2013). This study will also consider organizational intention to a lesser extent. There are studies that have confirmed positive relation between management support and the intention to adopt social media (Ahmed et al 2019; AlBar and Hoque 2019). In essence the essential factors for a firm wanting to adopt technology and social media cover the aspects of the following for the organization. The issue of financial resources, organizational knowledge, operations capability, top management support, readiness to accept changes, innovation capacity and human capital (Zhu et al 2005; Low et al 2011). Olanrewaju et al (2020) postulate that the vast majority of research on innovation is based on top management as the main driver of changes in the organization. This is an avenue of getting internal stakeholders to adjust to the new technologies as norms, values and culture are influenced by top management. Whilst Social media present numerous advantages, there are limitations that make it challenging for the top management to adopt social media. Drawbacks may come about due to staff members who may not be buy-in the idea of social media. This can

lead to wastage of time and unfavorable remarks that may negatively impact the customers and they will perceive the same as bad customer service which can be detrimental to the organization's brand (Ahmad et al 2018). It is also essential to note that social media adoption requires that staff be trained and monitored (Tajudeen et al 2018).

Employee skills/Expertise. In order for employees to accept and adapt to new technologies then required skills and/or expertise is necessary. According to Bharati & Chaudhury (2015) employees skills of how to deal with complexity surrounding the technology adoption is one of the key and significant factors to consider. Yaseen et al (2019) and Chiu et al (2017) agree that the new technology adoption can be a failure if the organization does not possess the required skills and expertise. It is critical to highlight that researchers such as Rowe and Abdelatty (2012) identify that a lack of knowledge with regards to information technology is one of the barriers within SMEs. In addition, reports also indicate that lack of technical skills, IT knowledge, and high implementation costs are significant barriers to technology adoption (MacGregor and Vrazalic 2005). Recent studies have not shown that employee experience is essential to aid with technology adoption (Ahmad et al 2018; Sugandini et al 2020). Once skills are acquired it aid with the speed of how technology is adopted in an organization (Bharati and Chaudhury 2015).

Cost Perception. High cost of technology and scarcity of resources are considered to be a barrier to social media adaptation in businesses (Sugandini et al 2020). Not possessing adequate funding is one barrier of social media adoption as there is cost related to procurement and maintenance which is considered as high by owners of the SMEs (Awa et al 2015). According to Potluri and Vajjhala (2018) financial constraints have initiated the implementation of Web 3.0 technology on the part of SMES.

Top Management Support. Grover and Goslar (1993) outline that top management support deals with the support that the highest level of management gives to the adoption of technology within a business. The importance of how top management supports the implementation of technology has been researched by a few scholars (Low et al 2011; Abed 2020; Alrousan Et al 2020; Salamzadeh & Arbatani 2020). Due to the fact that most organizations are structured in an hierarchical way, top management can influence and have power to control attitudes and opinions at the organizational and individual levels (Low et al 2011). Further, it is concurred by Matikit et al (2018), they believe that top management are the ones who make the arrangements and provision of social media adoption due to the fact that they can influence others through vision, resources, and cognitive support. In this time of Covid-19, it is therefore the idea that top management will be the driving forces behind firms to adopt social media networks.

Environmental context

According to Rogers (2020) the business environment is a critical factor to be considered in that it can either encourage or retard the process of technology adoption and is necessary for development and sustainability of a firm. Tornatzky and Fleischer (1990) also state that the environmental factors deal with the external conditions such as the industry, availability of the technology and governing rules. Also, it's about the conditions in which the organization operates (Ahani et al 2017). Sugandini et al (2020) postulate that the influence of suppliers and competitors and the associates of the firm can greatly impact how social media is adopted. Some studies have included other factors such as the regularity system and competitive pressure (Ahmad et al 2019; Ahanif et al 2017; Ramadi et al 2013). For the regularity system it is believed that governments have implemented regulations that support the adoption of

technologies in business operations (AlBar and Hoque 2019). As a result the legislative systems of a country can affect how social media and technologies are accepted. Borgman et al (2013) accepts the fact that the government legislative environment can either support or not support technology adoption. On the other hand, competition within the industry is seen as significant as to how technology is adopted with SMEs. Through competition firms strive to enhance customer service and satisfaction and to financially better (Ahani et al 2017). A study done by Zhu et al (2003) found that European companies were pressured to adopt certain technology as e-trading necessitates that trading partners possess certain technologies to compete and to function. They claimed that government policies are crucial in how SMEs adopt E-commerce platforms. However, Lin (2014) argued that competition though beneficial can lead to a high degree of environmental uncertainties that can drive firms to greater intention of adopting social media. A recent study done by Lutfi (2020) in Jordan supports the claim that environmental uncertainty is a key element affecting technology implementation. There is also a claim by Ahmad and Bakar (2018) in their study that found no significant influence of competitive pressure on how social media is adopted in organizations. Ahmad and Monfaradi (2017) believes that some companies within the competition adopt social media only because their competitors have done so. They claimed that the adoption of certain technology will influence others to do the same. McKinesy and Company (2020) believe that COVID 19 has led companies to implement technology to achieve competitive advantage. Corporations are more likely to embrace innovations due to external factors such as institutional constraints (Henderson et al 2012). Institutional pressure is the force that drives firms to implement general practices. External stakeholders may apply pressure on businesses to adopt social media.

Competitive Advantage. Covid-19 has been one of the major causes for companies implementing technology in order to gain competitive advantage (McKinsey 2020). It is agreed by Ndekwa and Katunzi (2016) that social media has been used to replace the conventional activities within firms. In addition, more businesses are adopting electronic communications in various e-marketing to aid with marketing activities (Aspasia and Ourania 2014). According to Piarala et al (2015) they view the environmental context as pertaining to competitors and business partners. Ecological context is also an area that must be considered as the small medium enterprises deal with the adoption of technology (Chiu et al 2017). It was also reported by Kransnov et al (2018) the business environment does affect the adoption of innovation. As a result, the primary impetus of information technology adoption is to create competitive advantage and reduced costs for firms that in the short and long run the business can be more productive (Awa et al 2017). As adoption is driven mainly by competitive pressure (Awa et al 2015), it can be concluded that the external environment is what drives the adoption of e-business practices.

Government Support . The policies set by the government are crucial as to how small medium enterprises (SMEs) promote e-commerce (Zhu 2009). The regulations that have been developed and implemented by the government can hinder firms from adopting technology innovations. Therefore if the government issues strict control and testing tools for industrial safety then the social media adoption may be hindered (Seethamraju 2015). This view was also supported by ALjowaidi et al (2015) who argued that lack of government oversight of policies can also hinder the implementation and adoption of social media technologies. However, this can be disputed as outlined by Tornatzky and Fleischer (1990), that government regulations can also support firms through financial aids and resources and this will motivate and encourage organizations to adopt social media platforms. In addition it is essential and important that the government regulations are designed to protect consumers and organizations against various types of threats (Faqir 2014). In essence, the government can support firms by developing and

enabling a culture that gives tax incentives, looks at infrastructure and gives regulatory oversight (Sugandini et al 2020).

Environmental Uncertainty. When there are uncertainties in the environment it harms how social media is adopted and used. These uncertainties occur due to changes that may be complex and fast (Scupola 2003). According to Chong and Olesen (2017) uncertainty impacts social media adoption. The fact is that environmental uncertainties most times are out of the organization's control and creates challenges due to the ever changing business environment. A study done in Jordin exhibited how environmental changes with Covid -19 affected businesses as a way of survival (Itliong 2020). There is also the argument that uncertainty of social media applications can be as a result of the host and designed by external third parties (Mergel 2013).

Social Media Adoption as a mediating variable

A number of previous studies used various techniques to identify mediating factors as a way of measuring the indirect effects (Hair et al 2010). In the field of behavioral science the mediation process evaluation has gained attention (Enders 2013) especially in the field of management. This is as a result of the level of understanding it brings towards the developing better understanding of the underpinning causes of behavioral changes. Over the years mediation analysis has been developed but much is still lacking in techniques for assessing the mediation mechanisms.

Mediating variables aid the nature of a study to be more precise and practical and hence these types of variables can be seen in experimental and correlational business research to outline the consequences of the correlation between dependent and independent variables. The independent variable causes the mediating variable, which in turn causes the dependent variable. In other words, the causal variable mediates the relationship between independent variables and the dependent variable is known as the the outcome which is also impacted by the mediator

variable which is the process variable or intervening variable (Kenny 2014; Muller et al 2005).

When conducting mediational models, it is assumed that the dependent and independent variable possess no direct relation and hence the mediating variable intervenes on the independent variable to impact the dependent variable. As a result this action is considered as a casual chain effect. According to Kenny (2014), a critical aspect of the process is the analysis of moderating and mediating variables, even though moderation analysis possesses the tendency to be weaker than the mediation analyses.

The impact of the mediating variable is known as the indirect effect when it is quantifiable. This is due to the fact that there is an impact of independent variable such as entrepreneurial orientation on firm performance that is conveyed indirectly through social media adoption which is the mediating variable. This is seen as the indirect effect. However, on the other hand, when there is a direct impact of entrepreneurial orientation on firms performance even after social media adoption is considered in the relationship, the influence of entrepreneurial orientation on firms performance is affected to an extent then it is considered as partial mediation. It is important to note that other third-variable effects that are used to understand the relations between the variables are not necessarily the same as mediating variable effects (Mackinnon 2019).

Qalati et al. 2020 state in their study the limited number of research papers that used social media adoption as a mediator, however numerous studies have been conducted where the direct relationship of entrepreneurial orientation and firm performance has been investigated and in addition where entrepreneurial orientation is considered as the mediating role. It has been recommended that further studies investigate the direct relation between entrepreneurial orientation and MSMEs performance. Karami and Tang (2019) in their research focused on the

indirect correlation of entrepreneurial orientation and experiential learning. It is therefore, from these studies that users of the findings are more likely to accept that entrepreneurial mindset bolsters firm performance based on the support from the indirect effects.

Mediation analysis according to Baron and Kenny (1986) states that the first step is identifying if there is substantive statistical relation between the variables (independent and dependent). The other step is demonstrating that there are relations between the mediating variable and the independent variable and that there is a strong statistical relationship between both. It is also essential that the researcher demonstrate the relation between the dependent variable and the mediating variable, in this case firm performance and social media adoption. The direct impact must also be examined if the mediating variable is altered. There is full mediation when the mediator impact negates the direct relation and partial or no mediation in other situations.

Social media adaptation and Performance

Kaplan and Haenlein (2010) define social media as ‘a group of internet-based applications that build on the ideological and technological foundations of web 2.0 and allow the creation and exchange of user generated content’. Social media has become an integral part of everyday life of people worldwide (Ayodeji & Kumar 2019). According to Nasrullah (2018) is a tool that is used to increase the connectivity of users to share and take collective actions that are outside the institutional and organizational framework. Kumar and Bhardwaj (2018) postulates that due to an increase in the use of the internet, social media interventions have also grown. Social media has become helpful to people as data is being shared and one can educate him/herself and make decisions and evaluations about products (Kumar & Ayodehi 2021).

Adoption of social media is growing as it is believed to increase organizational standard processes and procedures (Treem and Leonardi 2013). According to Mittal and Kumar (2019) social media usage has also been helping firms by providing resources, connecting with customers and making marketing strategies decisions. It is not surprising that more social media usage gives a boost to firms to perform better in the marketplace (Alshari et al 2018). Previous studies have shown that social media can be beneficial as it aids with promotion of new products and building relations with customers and partners (Talukder 2013; Funk 2013).

The adoption of social media within MSMEs has created the platform to regulate and manage relational activities (Kaplan and Haenlein 2010). As a result it is evident that MSMEs can gain their competitive advantage through the use of social media (Dahnil 2014). Social media adoption is becoming an essential and critical business management tool (Vithayathil et al 2020, Almotairy et al 2020; Tajudeen et al 2018). However, despite the perceived impact of social media usage and adoption in MSMEs and the contribution to national economic development, much is still lacking in the literature as to how firms select and deploy social media to impact business performance (Ali Qalati et al 2021). According to Bakri (2017) firm owners in the Gulf countries did not employ the use of social media as they were unsure of the benefits and were also lacking in skills required to integrate the application into business operations.

Previous research has investigated the correlation between social media adoption and performance and highlighted the significance of social media adoption impact in enhancing firm performance (Abu Bakar et al 2019; Garg et al 2020). Ainin et al (2015) posit that social media platforms have influenced marketing, customer engagement and information dissemination. This stance was also supported by Muafi (2020) who claimed that social media networks create the

forum for innovation, exchange of information and enhanced performance of business. Research has also shown that social media bolster the productive capacity and competitiveness of businesses (Potluri & Vajjhala 2018).

According to Dahnil et al (2014) they outlined internal and external factors of social media adoption. Firms are to be cognizant of the end users which involves training and knowledge of the social media environment and the perceived usefulness of various media. However, there is the argument that high resistance may occur if users are asked to learn from scratch (Sugandini et al 2020; Effendi et al 2020). Dahnil et al (2014) in the second group of internal and external factors to social media adoption states that organisational resources are essential whether management will allocate money and time to support the adaptation of social media usage. However, there are barriers that must be considered. In a research done by Kuikka and Akkinen (2011) one barrier to social media adoption is resource limitations. Beier and Wagner (2016) argued that besides lack of financial and human resources, SMEs struggle to adopt social media due to ineffective use.

In essence numerous studies have proven that technology improves business performance (Gera and Gu 2004; Hakala and Kohtamaki 2011; Paniagua and Sapena 2014). According to Aini et al (2015) there is a positive relation between social media adoption and corporate performance and this claim is supported by numerous other researchers such as Parvenn et al 2014; Paniagua and Sapena 2014. Facebook as a social media platform when adopted by firms has also shown to have a positive effect on SMEs sales performance (Wong 2012 and Kwok & Yu 2013). It is also proven that technology adoption has positive correlation between financial and non financial performance matrix. However, few studies have investigated the impact of social media adoption on business performance (Ainin et al 2015).

Thornhill and Amit (2003) argued that for small firms it is critical to develop strategies that can aid with the business continuity as the survival rate is lowest amongst small firms. The literature has proven that SMEs are vital in the development of national economies and as the business environment becomes more competitive these businesses must be properly positioned (O'Cass and Sok 2014). However, even though the literature has provided information about how SMEs survive and thrive, much is still lacking about the factors of drivers of SME performance (Anderson and Eshima 2013) especially during the Covid-19 pandemic. The literature shows that social media is essential in this competitive era. Jadudeen et al (2007) state that managers and employees are to use entrepreneurial skills in times of uncertainty and social media is the platform for communication. Whilst a number of studies have demonstrated a positive correlation between social media adoption and entrepreneurial orientation as a way to drive performance, there are still gaps about how covid-19 has impacted on businesses. Therefore social media is the avenue to drive the pace and success of business in this time of Covid 19 (Effendi 2020).

Chan et al (2019) argued that due to the development of technology and the internet the business world has been growing as a result the website technology makes it easier for players within the industry to communicate with each other and to perform and conduct better service quality (Wang and Huang 2022). It is true that websites and other platforms must be designed carefully with the customers in mind to ensure that the target market is being catered to. Facebook and other information technology within the social media sphere is developing rapidly (Harmon & Tomolonis 2019) There is also the evolution of search engines such as google that have become more advanced which makes social media to become necessary for networking (Sola et al 2022). To create a website is not as difficult as in the past as there are not self-

directed tutorials that one can easily create a website, it is there helpful to new entrepreneurs to take advantage of free website and to integrate various features to aid with strengthening their business (Alidoosti et al 2022; Si et al 2022). It is therefore imperative to understand then that if entrepreneurs want to grow and improve performance within their business that they can engage in developing and adopting social media platforms especially during the Covid 19 era. Mendoza et al (2021) pointed out that Micro Small and Medium Enterprises (MSMEs) play an important role in the development of a country's economy, it is also clear that with social media adoption in the Micro Small and Medium Enterprises customer service can be straightforward (Guevara & Thiagarajan 2019).

Micro, Small and Medium Enterprises are resilient and have the ability and capability to survive declining economic conditions. Based on a report from the Trading Economics (March 2021) Indonesia had the highest unemployment rate at 7.7% percent compared to that of India with 6.5 % percent, the USA 6.3% percent and China 5.2% percent. Irawan et al 2019 and Marufi et al 2019 argued that in spite of the challenges in Indonesia they were able to position themselves for new opportunities and create jobs. Entrepreneurship is one major way of creating jobs to reduce unemployment and entrepreneurship can produce entrepreneurs in the MSME sector (Rizky & Uasa 2018; Shafi et al 2020). Micro, Small and Medium Enterprises (MSMEs) are vital to the business sector in driving economic growth (Supardi et al 2021). With MSMEs they can stand alone given that they are a productive field as they can operate in all sectors (W. Laura Hardilawati 2020). A number of scholars (Listiyowati et al 2021; Rifai & Meiliana 2020) posit that through MSMEs jobs can be created and a country can develop to aid with poverty. Mendoza et al (2021) state that MSMEs make up the bulk of the jobs created and that Micro Small and Medium Enterprises influence the economics of countries by driving growth. While

this is true there are scholars who argue that not all technology has much impact on organizational performance (Bianchi 2017; Bilgihan & Wang 2016). It is important to highlight that not just possession of technology results in a firm's performance but as postulated by Gomez et al (2022) and Hoskins and Carson (2022) whatever technology is being employed by a company must be integrated in with the company's strategic plans in order to achieve results. There are few cases that discuss technology as a moderating function to business performance. However, the application of social media and technology have been widely researched on technology resources on the effect of entrepreneurial orientation and business performance Tajeddine et al (2020).

In the literature it has been reported that technological resources in organizations refer to how these are used in support of the firm achieving targets (Mendoza et al 2021; Pereira et al 2022). It is important to note that companies need technology capacity as much as capabilities surrounding corporate strategies, financial projections, resource allocation and business planning. Amouri et al al (2021) argued that the use of technology is important in how it impacts on a firm's performances and as such the capability of information technology requires technical skill, knowledge and proper infrastructural set-up to aid the operations processes.

Table 3

Gap in literature for social media adoption using TOE, RBV

Researchers	Theory	Title	Relationship/Results
Maharjan et al 2024	RBV and TOE	Measuring the Effects of Entrepreneurial Orientation on Social Media Adoption and SMEs Performance in	Positive relation between social media adoption on performance. Positive relation of

		Kathmandu Valley: Evidence from structural Equation Modeling using Smartpls 4.0	social media as a mediating variable of Entrepreneurial orientation
Rosman Mohamed Hussin, Lennora Putit, Geetha Subramniam (2022)	RBV	Social media as an open Innovation: Deciphering its relationship with firm performance, Compatibility and security concern	Positive relation that social media as a resource impacts performance
Fan et al 2021	RBV and TOE	Effects of entrepreneurial orientation on social media adoption and SME performance: The moderating role of innovation capabilities	Positive relation of social media adoption and entrepreneurial orientation on performance
Ahmad et al 2018	Social presence theory	Reflections of entrepreneurs of SMEs converting the adoption of social media and its impact on performance outcomes: evidence from UAE	Positive relation of social media adoption on SMEs
Anas A Al Bakri 2017	Integrated	The impact of social media adoption on competitive advantage in the SMEs	No impact of SMA on competitive advantage (performance)
Alsobhi & Abeyasinghe 2013	TOE	Social media readiness in small businesses	Positive relation between TOE and social media adoption

Table 4*EO as an independent variable being mediated*

Researchers	Entrepreneurial Dimension	Title	Results
Fadda (2018)	Innovativeness, proactiveness and risk-taking Autonomy competitive aggressiveness MULTIDIMENSIONAL	The effects of entrepreneurial orientation dimensions on performance in teh tourism sector	Positive relation between the dimensions and performance
Caseiro and Coelho (2018)	Innovativeness, proactiveness and risk-taking UNIDIMENSIONAL	The influence of Business Intelligence capacity, network learning and innovativeness aon startups performance	The dimensions mediated on the business performance
Parveen et al (2016)	Innovativeness, proactiveness and risk-taking UNIDIMENSIONAL	Social media's impact on organizational performance and entrepreneurial orientation in organizations	Social media adoption has positive influence on entrepreneurial orientation
Amin et al (2016)	Innovativeness, proactiveness and risk-taking UNIDIMENSIONAL	The effect of market orientation as a mediating variable in the relationship between entrepreneurial orientation and SMEs performance	EO has a positive impact on firm performance

Monteiro et al (2017)	Innovativeness, proactiveness and risk- taking UNIDIMENSIONAL	Linking Intangible resources and Export performance: The Role of entrepreneurial orientation and dynamic capabilities	The dimensions did not mediator the relation of intangible resources and performance
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Previous research has shown that social media adoption and entrepreneurial orientation have positive and negative impacts on performance. Recent study done by Hussin et 2022 using the Resource Based View (RBV) as the theory found that there is a positive relation between social media adoption and performance. The paper looked at open innovation and security concerns of using social media in businesses. Ahmad et al (2018) in their paper entitled ‘Reflections of entrepreneurs of SMEs converting the adoption of social media and its impact on performance outcomes. The table presents empirical studies of social media and entrepreneurial orientation and whilst not exhaustive gives the gap of this study. The objective of this paper is to determine how the usage of social mediation and entrepreneurial orientation impacted how MSMEs performed during the covid19 pandemic. As a result it is to delve deeper into understanding how MSMEs were able to operate considering the lockdowns and disruption in logics where customers and suppliers were restricted. Additionally, the study aims to fill the gaps in literature about social media adoption and entrepreneurial orientation during the covid-19. As outlined in the tables there are studies that have been done on this topic but very few have been doing with the covid-19 pandemic as one of the main background issues.

This investigation is different from other papers as outlined on the table. According to Qalati et al (2021) there are very few research studies that have used social media adoption as the mediation variable and by extension the mediation role for entrepreneurial orientation. There are numerous studies that have used entrepreneurial orientation as the mediating or moderating variable but there are limited research papers with the opposite. Therefore, conducting this research using social media adoption as the mediating variable of entrepreneurial orientation, is to provide findings of how entrepreneurial orientation can be seen as a resource that deals with capabilities that can enhance or destroy a company. The findings therefore can prove if the entrepreneurial orientation has a direct impact by itself on firm performance or there is a mediating role such as social media adoption that impacts on how entrepreneurial orientation is seen in businesses. This can add to literature where social media adoption is a mediating variable factor of entrepreneurial orientation.

The tables presented information that show that not many studies investigated social media adoption and entrepreneurial orientation from a third world nation perspective and also using MSMEs. The study used social media adoption as an independent variable that was affected by the technology, organization and environment (TOE) framework which were lower order construct. The main goal of implementing the TOE as lower order indicator variables is that the research can provide a more specific measure of the higher order construct of social media adoption. Therefore, the dimension of technology could be directly measured to its impact on social media adoption. Social media impact can be measured as to the effect on technology and a number of papers have looked at this phenomena but not in the context of a crisis such as the covid-19 pandemic. In this research social media adoption is used both as a mediating variable and an independent variable. This helps to differentiate this study from other papers that

looked at social media adoption and entrepreneurial orientation. There is a literature gap that looks at the mediating relationship of social media adoption to entrepreneurial orientation, as a result it's important for research to look at how technology compatibility and relative advantage gives social media adoption the impetus for MSMEs to adopt in their business. Also government and top management support, infrastructural set up and resources available to these businesses in a crisis situation.

Business Performance

According to Best (2014) Business performance is ‘the result of output of business activities’. Business performance has been in literature from the 1950s where it is defined as the operational capability to meet the demands and satisfy stakeholders (Smith and Reece 1999). Business performance can also be viewed as non-financial or financial, which relates to the extent to which these meet business objectives (Lebans and Euske 2006). A more recent paper viewed business performance as a symbol for organisational success (Sumiati 2020).

Digitalization is also an aspect that impacts business performance. There are studies that have shown a significant relation between digitalization and performance within a business. It is through the digitalization of a business that operations can be impacted where more efficient procedures and automation can be implemented (Li et al 2021). By the use of digital technologies business can become more efficient as digitalization aids better data analytics and resource allocation where cost can be controlled leading to greater overall performance (Gatnar et al 2022). The application of ICT to drive innovation is to impact the processes, procedures, structure and environment of a business. Digital innovation is also seen as a fusion of physical and digital parts to create new products (Yoo et al 2010). To assess business performance is a

dynamic process as areas need to be properly measured and reported. Therefore it is accepted that organisation performance involves numerous aspects and of what performance entails which include return, profitability, competitiveness, efficiency and overall growth (Collase 2009).

Nylen and Holmstrom (2025) posit that the digital framework outlines five significant areas that business can utilise to access the innovative process of digitization. The experience of the user of the technology, the proposition value, skills, improvisation and digital scanning. All these were essential for MSMEs during the covid-19 as performance was dependent on how these businesses were able to implement and use technology.

However, on the other hand other researchers such as Bartoli and Blatrix (2015) consider performance within a business to be measured through evaluations, effectiveness and quality. Additionally, performance indicators can be seen as how productive the business operates, how costs are managed and the level of profitability (Miskiewicz et al 2021). The debate of the indicators of performance has dated back as far as to the 1980s. According to Moullin (2007) the measurement of performance is based on how the business manages its resources and to what extent value was created for stakeholders. However, Upadhyay et al (2014) outline that performance measurement is a process of collecting and analysing data about how the individual groups perform within a system. Therefore, performance can also include how the processes of the business are designed, what strategies were employed, the technical capabilities. As a result, performance within organisations/businesses is the degree to which objectives are met and needs are met (Kotter and Heskett 1992).

It is essential to understand how social media and entrepreneurial orientation impacts on performance during the covid 19 pandemic. Being digital oriented impacts business efficiency, aids with customer experience, enhances how procedures and processes are conducted, boosts

sales and assists businesses in how they adjust and adapt to changing environments (Pakhnenko & Kuan 2023). Innovation as a dimension of entrepreneurial orientation holds a significant part of how digital implementation is adopted in a business to impact on performance. Innovation helps to unearth the potential of a business in performance at the optimal level with the use of digital technologies (Pakhnenko & Kuan 2023). Performance can either be viewed from an objective or subjective manner. Objective measures look at performance from data within the business or secondary data, however, subjective performance measures deal with data that is self-reported. This leads to the idea that there are three major areas when considering objective and subjective measures, they are indicators that can point to the performance level of a company. Secondly, there are standards which can create a benchmark and finally a scale anchor (Wall et al 2004; Kim 2006).

Numerous researchers have outlined how subjective evaluation of performance can be carried out. According to Becherer and Maurer (1997) subjective evaluation is when previous and current performances are compared, the other is where performance is compared with leaders within the industry (Madsen 2013; Runyan et al 2008). However, researchers such as Lumpkin and Dess (1996) postulate that performance should also be looked at based on the characteristics and the type of business. There are other arguments that demonstrate that there are gaps in how performance in businesses are interpreted as there is a difference between sizes of firms, as organisational structures are different for MSMEs and larger companies (Chong 2008). Subjective measures are aimed at removing difficulties with regard to MSMEs due to lack of proper accounting in most of these businesses. Managers and owners can manipulate records as a way of protecting the business image (Sapienza et al 1988). Covin and Slevin (1989) argue that when there is subjective manipulation it impacts on the level of accuracy and affects how

research is conducted. The misinterpretation of objective indicators can produce subjective results thus producing more comprehensive information as business may be assessed by variables such as profitability but not being profitable could be as a result of other investments the business is engaged in such as infrastructural development. In essence, subjective performance indicators reports about sales revenue, cash flow position of the business and the its net income whereas, objective indicators covers the ratings of customers and and level of satisfaction, the business's share in the market and the employee rate of turnover (Khin and Ho 2018).

Social media has been the source of innovation in many SMEs. Social media adoption has been the source to develop and drive innovation to psotiviely impact performance (Zhan and Zhu 2021). Study has shown that social media is used especially in crisis situations to engage stakeholders through knowledge sharing and solving problems which develops greater collaboration. According to Li x et al (2019) social media marketing adoption impacts performance such as growth and market share positively.

The concept of Firm's Performance

As far back as Venkatrman & Ramanujam (1986) they stated that a firm's performance is categorized into two, financial and non-financial performance. Financial performance deals with profitability, return on investment and asset growth whereas, non-financial covers customer and employee satisfaction, shareholders returns and loyalty of the customers. Social media technology literature found that technology adoption has a positive impact on both financial and non financial performance (Damanpour et al 1989; Thong 2001; Zhu et al 2003). Taylor's Scientific management theory (1911) in the classical era was utilized to improve performance as

a concern dealing with workers. According to researchers such as Liao and Wu (2009) and Venkatrman Ramanujam (1986) the concept of performance has always been a concern for managers and other practitioners. Even though this concept of performance has been widely researched the literature still has dispute as to a conceptual definition of what the term means (Liao & Wu 2009).

Westover (2008) defines performance as the capacity or functions done in the organization to achieve goals and the use of resources efficiently and effectively. A Firm's performance is normally viewed as the overall performance in comparison to the goals and objectives of that organization (Kirca et al 2005). Yadav et al 2019 supported the claim that the performance indicator of a firm's performance deals with the achievement of company goals. Furthermore, measuring the performance may be better to use subjective indicators as it can be difficult to find objective measures. It is through research done that subjective measurements are adopted (Martin and Javalgi 2016). Performance can be multidimensional as there are numerous performance indicators that can evaluate the links between entrepreneurial orientation, social media adoption and business performance (Rauch et al 2009). Studies have found that the use of subjective measure to assess performance can be through profitability covering employee growth rate and market share (Gruber and Hofer 2015), sales growth, market share and profitability (Sahibzada et al 2019); Sales growth and employment growth and profit margin (Balodi 2019); Return on investment, profit increase and sales growth (Kocak et al 2017).

Venkatraman and Ramanujan (1986) proposed three overlapping concentric circles about performance where the most important one, which is the largest circle, deals with organizational effectiveness. This broadest domain includes the medium circle which is business performance which has the inner circle representing financial performance. Therefore business performance is

a subset of organization effectiveness. With organizational effectiveness it deals with the firm engaging in legitimate activities, resource acquisition and how to accomplish stated goals (Cameron 1986). However, there are empirical studies that have demonstrated the analysis of operationalizations of firm performance but the domain does not cover the concept in its entirety even though the concept is widely used and referred to by other scholars (Carton & Hofer 2006; Richard et al 2009). Coombs, Crook and Shook (2005) analyzed strategic management journal articles from the 1980 to 2004 and came up with 238 empirical studies that utilized 56 different indicators about firm performance. They found that 82% of the cases had financial performance with an accounting measure of profitability 52%. Other scholars concur such as Carton and Hofer 2006 and Richard et al 2009 who reviewed different journals for a different time period and found financial performance to be more dominant.

Cameron (1986) postulated that there is confusion when it comes to use of antecedents of performance. Coombs et al (2005) argue that operational performance should be viewed as an antecedent of financial performance as posited by Venkatraman and Ramanuja (1986). This argument could be substantive in cases dealing with efficiency of production, however, there are aspects that must not be ignored such as customer satisfaction which is harder to measure. To define performance based on how satisfied stakeholders are may very well differentiate between antecedents and performance outcomes (Connolly; Conlon & Deustch 19080; Htt 1988; Zammuto 1984). Therefore customer satisfaction can be accepted as an outcome which is indeed a part of the firm's performance.

In an attempt to define performance two aspects points must be highlighted: 1. The time frame and the other the point of reference. According to Carneiron (2005) he argued that past excellent performance does not guarantee future excellent performance therefore it is possible to

distinguish between past and future performance. Time is another issue that must be considered as there can be short, medium or long term intervals when dealing with performance. Therefore the reference should be made against how the performance is being measured, whether it's based on results of main competitors or established targets (Carneiro et al 2007). As a result the comparison between targets and past performance demonstrates efficiency and evolution of a company. However, to compare companies of different sizes would not be advisable.

Stakeholder theory (Freeman 1984) can be used to understand the concept of performance within a firm. It is clear that profit and growth are key concepts that surround the existence of a business but measuring performance by identifying stakeholders outcome can give additional information about performance (Connolly et al 1908; Hitt 1988; Zammuto 1984). Stakeholder theory as a way of understanding performance was used by a number of researchers (Agle, Mitchell & Sonnenfield 1999; Clarkson 1995; Kaplan and Norton 1992; Richard et al 2009; Venkatraman & Ramanujam 1986; Waddock & Graves 1997). The use of the theory gives social perspective to the objectives and goals of firms. The theory also helps with differentiating between performance antecedents and outcomes, its observing the high and low performers that stakeholders can better understand how to measure performance.

If a firm has superior financial performance then that is a way to satisfy the investors (Chakravarthy 1986) which according to Cho & Ocuik (2005) the financial superior performance can be represented by the firm's profitability, growth and market value. The three complement each other. Profitability is about a firm's ability to generate returns for investors (Glick et al 2005). According to Whetten (1987) growth is the firm demonstration of growth in size and the larger the company is the more likely it will enjoy economies of scale. Market value is the firms' profitability and growth level that can make the firm become competitive.

Firm's performance can all be viewed from the angle of customers and employees. Customers require that companies provide goods and services that are of quality and match their expectations (Fornell et al 1996). If the customers are satisfied then it increases the willingness to pay for a product based on the value added. Once the companies are cognizant of the customers needs then they would be better able to provide the goods and services (Barney and Clarke 2007). The aspect of employee satisfaction deals with human resources. If employees are satisfied based on job descriptions clearly defined, professional development system, bonuses and career plans then this can impact the firm's performance (Harter, Schmidt & Hayes 2002). Chakravarthy (1986) postulates that if employees are satisfied then it is easier for the company to retain employees and lower the rate of turnover.

Performance can also be viewed from the perspective of how the firm deals with stakeholders such as governments and communities. Chakravarthy (1986) argued that performance can be social and environmental and if the firm is performing well in these areas then the community will be satisfied. If these indirect groups are satisfied with a safe environment, the quality of the product and development of projects then this satisfaction can aid the firm in how it performs (Agle et al 1999; Johnson & Greening 1999; Waddock & Graves 1997). A study done by Oke and Munshi (2015) demonstrated that innovative strategies using digital marketing employed through social media have impacted the performance of small and medium enterprises in the export market. The use of marketing done through the channels investigated showed a positive impact on these businesses when social media was utilised to impact performance. Social media is known to be a driving determinant for SMEs performance as these social media platforms are used by these operations to drive greater engagement between MSMEs and customers Yu and Ramanathan (2016).

Financial Performance

Previous researchers have outlined a number of metrics that can be employed by businesses when assessing financial performance. There are a vast number of indicators such as Return on equity, Return on Investment, stock turnover, profitability margin and ratio (Wheelen et al 2018; Best 2014; David 2013). However, there are researchers who classify the financial performance indicators in three groups: profit, growth and efficiency (Murphy et al 1996). According to Uno et al (2020) the performance of a business is measured by ratios, where the financial ratios are used as a tool of making comparisons of other companies in the industry. Therefore, ratios such as return on equity and return on asset and the other returns ratios are considered as efficiency measures to determine how effective the company has employed the resources of the business. Profit of a business is normally determined by the returns on sales, the margin of the profit and earning before taxes are deducted. To consider growth as a measure of financial performance, market share, employment growth and sales growth are all growth indicators.

According to Chong (2008) the two main metrics for evaluating short term performance are profit and asset turnover. However, revenue and employment growth are used for long term assessment of performance. The Kennas Chartered Accountants (2014) view profitability and return on assets as the primary performance indicators that are critical in unearthing and explaining a business financial soundness. It is argued also that there are four metrics to aid in determining financial performance of a business, which are: liquidity of the business, the level of acidity and transactions, leverage and the profitability (Melicher and Norton 2000; Statistics Canada 2014). In the context of MSMEs researchers such as Tuffour et al (2022) argued that MSMEs used three metrics to determine their financial success which are revenue, sales turnover

and profit. Earlier researchers have proposed different metrics for MSMEs such as capital changes, earnings of the business and turnover to measure performance (Eke and Raath 2013). Agyapong and Attram (2019) on the other hand, used market share, the margin of profit and growth in sales and the cost effectiveness of the business. Other researchers such as Asmin et al (2021) employed sales growth and revenue along with asset growth as the measuring standard of whether there is financial stability and hence growth and performance for the MSMEs. Therefore, financial performance is essential to MSMEs in providing relevant information about the operations of the business.

Non financial Performance

There is a difference between financial and non-financial performance measures as the non-financial measures offer a wider array of indicators to measure performance (Vaivio 1999). Over the past decades, the issue of measuring performance with non-financial measures has become more prominent (Taticchi et al. 2008). As a result, businesses are considering all information about the company, and this goes beyond financial performance but looks at how competitors impact the business and how the business may manage to be ahead, customer relations, suppliers, and all other stakeholders when determining the total performance of the business (Neely et al. 2000). This view was also supported by arguments from Kaplan and Norton (2000), where they posit that there should be a balance in measuring a company's performance between financial and non-financial components. Customer relations management is a non-financial measure that has been used in a number of previous studies when investigating non-financial performance. Productivity, efficiency, and competitive capability are indicators that have been used as measurement criteria (Griffin and Page 1993; Kekre et al. 1995). A number of researchers have moved away from financial measurements only and now have

incorporated non-financial measures as an advancement in the field of performance measurement (Bourne et al. 2000; Cooper and Ezzamel 2013; Garengo and Sharma 2014). In fact, there are other researchers who have indicated the significance of measuring performance from the customer satisfaction perspective to include how they perceive the service, quality of the product, and overall value (Fornell et al. 1996). In SMEs, non-financial performance is evident in customers being satisfied with the level of service. They, however, on the other hand, do not have much interest in market share (Mohd Harif et al. 2013).

According to Dahal (2022), businesses need to demonstrate corporate social responsibility, as the businesses are not forced to assume some responsibility for how their businesses impact the environment in which they operate. Possessing a good public image and environmental awareness in society is beneficial to the company as it gives it a significant advantage over its counterparts that fail in these aspects (Gupta 2002). Advancement in Technology and skills areas undoubtedly have impacts on how and the type of service offered and the innovativeness brought about by the evolution of technology (Huarng 2011).

There is the argument, however, where researchers have included market share and how efficient the employees are in determining the non-financial performance of a business. Mohd Harif (2013) argued that non-financial performance involves market share and employee efficiency, but it is to an extent and more ideally fits the financial indicator of performance. Also, Parveen et al. (2016) postulated that the level of customer service and the degree of customer relationship are considered as indicators of performance in SMEs.

Financial indicators are central to the topic of objective indicators, whereas subjective evaluation looks at the overall performance. Key informants in the context of objective measures

provide data that is devoid of scales, and when it is subjective performance, these informants utilise a scale to measure the firm's performance level in relation to other businesses in the same industry. (Merchant et al. 2010). The use of subjective measures is necessary to evaluate the corporate success considering that objective performance evaluation can lessen and minimise the level of bias as there is sensitive financial data that may present a challenge for the objective measures to be executed (Stam and Elfring 2008). Businesses might not be willing to enclose financial information that an objective appraisal may ensue, and hence subject actions will be necessary to evaluate the business performance (Runyan et al. 2008).

Business performance is a multi-dimensional design involving financial and non-financial indicators (Bourne et al. 2003; Neely 2007). Uno et al. (2020) outlined that financial ratios are used as a measure to determine the performance of a business as it compares the performances of businesses with market leaders in the industry. It is therefore important that Businesses balance these two measures of performance to better understand their position in the market (Anthony and Govindarajan 2007). Previous writers such as Venkatraman and Ramanujam (1986) also claimed that performance entails both financial and non-financial performance. They postulate that understanding business performance aids with how effective the organisation performs, as it is strategic management. The extent to which measurement of performance is valid depends on where the data was collected, even though validity can be impacted by subjective perception as well. Therefore, business performance covers all activities within a business over a specific time as measured by predetermined variables.

Summary

Jamaica is an English-speaking Caribbean country with inhabitants of approximately three (3) million people (Statin 2017). The COVID-19 pandemic has been considered to be one of the biggest crises that has affected the business world recently (Alon, Farrell, & Li 2020). The country's economy comprises various various, and the Micro, Small, and Medium Enterprises sector is viewed as one of the most significant areas as it contributes up 80% of the jobs created in Jamaica (Jamaica Ministry of Industry, Investment, and Commerce (2018). Micro and small enterprises in Jamaica is reported to be the second largest source of employment (PIOJ 2016). Due to the pandemic, however, the country has seen a rise in unemployment, moving to double digits from 7.3% (Statistical Institute of Jamaica 2017). MSMEs are revered as the sector that drives economic growth world-wide (Salam & Hoque 2019) and suffering the impacts from the pandemic where restrictions of movement and lockdowns were employed, most firms and businesses had to resort to online platforms to communicate with customers (Fan et al., 2021). The challenge that Micro small and medium enterprises face is the reluctance to invest in technology. This however, impacts the businesses where they tend to lack knowledge and technical skills (Evans and Sawyer 2009). According to Macgregor (2003) MSMEs struggle due to the fact that they lack innovation to an extent, they are reserved in seeking advice from consultants and the government, and it is challenging for them to access reliable industry information that can support the business.

Kaplan and Haelain (2010) postulate that social media is changing how interaction and communication is done in businesses, and the firms that are most entrepreneurial-oriented are the ones most accepting of social media adoption (Valos et al. 2015). However, it is argued by Nwachukwu (2012) that the failure of small and medium enterprises can be correlated to the lack

of and inadequacy of technological systems and infrastructure that contributes to some degree to the inability to adopt entrepreneurial skills. According to Zahra (2008), entrepreneurial orientation is the firm's capability to determine and utilize innovative ideas to gain new markets and attain the competitive edge. In addition, social media adoption has also contributed to MSMEs being more competitive in today's business environment. However, whilst a number of studies have shown positive results of social media adoption on MSMEs performance, there is still a limited number of research being done on the effects of social media on firms performance during the Covid-19 pandemic (Kuckertz et al., 2020; Liu et al., 2020). It is difficult for MSMEs to survive in some countries due to access to funds and effective infrastructure to operate (Abdullahi, Tafida, and Yusuf 2018). According to Sacerdoti (2005), banks have shown their reluctance to lend to micro, small, and medium business owners, especially for the long term, as they are considered high-risk. This sector does not have the support to compete against the multinational corporations (Abdullahi, Tafida, and Yusuf 2018).

EO is about the willingness to innovate, take risks, being motivated to engage in self-directed actions, being more proactive rather than reactive as the company seeks to grab the opportunities in the market (Lumpkin & Dess 1996; Wiklund & Shepherd 2005). There are five dimensions of EO, even though the earlier researchers proposed three. According to Miller and Lumpkin (1983) and Dess (2001), the EO dimensions are risk-taking, proactiveness, competitive aggressiveness' and autonomy. Resource-Based View (RBV) and entrepreneurship, and one should be aware of the differences (Barney et al. 2001; Alvarez and Busenitz 2001; Kellerman et al. 2016). RBV focuses on the capabilities of companies, and it primarily focuses on large corporations, whereas entrepreneurship looks at the actions of entrepreneurs and owners of mostly small establishments (Kellermn et al 2016; CBS SMG and Foss 2011). In RBV, the

analysis and central focus investigate the resources of the firms (Tipuric 2014), whereas entrepreneurship is where there is inseparability of wonders with his or her entrepreneurial venture (CBS SMG and Foss 2011). In essence, Wiklund and Shepherd (2003) found that there's a relationship between EO and a Firm's performance. Therefore, entrepreneurial orientation (EO) has a positive influence on how a firm performs. Other studies done by Zahra (1991) and Wiklund (1999) show empirical evidence also that there is a positive and significant relation between EO and performance.

The Covid 19 pandemic has also led more businesses to utilize social media platforms (Sugandini et al 2020). According to Boyd and Ellison (2013) they believe that social media platforms are mainly for the purpose of maintaining existing social relationships rather than establishing new ones. Social media is being used for a wide range of social relationships and during this time of Covid-19 it is being employed even more heavily by companies who see their survival as critical at this time due to the numerous changes (Alon, Farrell & Li 2020). In order for social media to be adopted the antecedents of social media investigated what needed to be done before the adoption. The Technology Organization and Environment (TOE) framework was developed by Tornatzky (1990) and has seen several studies exploring information systems problems and adoption of technology utilizing this concept. Technology context of the TOE framework looks at the internal and external factors that are appropriate to an organization. According to Chang et al (2020) these technologies can be within an organization or in the marketplace. Effendi et al (2020) state that the technology factor is assessing whether or not a firm has the required technical skills to benefit from technologies that are internal or external to the business. According to Rogers (2020) the business environment is a critical factor to be considered in that, it can either encourage or retard the process of technology adoption and is

necessary for development and sustainability of a firm. Tornatzky and Fleischer (1990) also state that the environmental factors deal with the external conditions such as the industry, availability of the technology and governing rules. Tornatzky and Fleischer (1990) also state that the environmental factors deal with the external conditions such as the industry, availability of the technology and governing rules. Also, it's about the conditions in which the organization operates (Ahani et al 2017). Rogers (2020) the business environment is a critical factor to be considered in that, it can either encourage or retard the process of technology adoption and is necessary for development and sustainability of a firm. Tornatzky and Fleischer (1990) also state that the environmental factors deal with the external conditions such as the industry, availability of the technology and governing rules. Also, it's about the conditions in which the organization operates (Ahani et al 2017).

It is important to highlight that not just possession of technology results in a firm's performance but as postulated by Gomez et al (2022) and Hoskins and Carson (2022) whatever technology is being employed by a company must be integrated in with the company's strategic plans in order to achieve results. Numerous studies have proven that technology improves business performance (Gera and Gu 2004; Hakala and Kohtamaki 2011; Paniagua and Sapena 2014). According to Aini et al (2015) there is a positive relation between social media adoption and corporate performance and this claim is supported by numerous other researchers such as Parvenn et al 2014; Paniagua and Sapena 2014.

The success of any firm during and after Covid 19 may heavily depend on how social media is adopted and incorporated with entrepreneurial orientation (EO). The pandemic has led to restricted movements and hence online shopping became even more trusted by customers to shop online. These social media platforms have led businesses to interact with clients online

(Sugandini et al 2020). However, there are researchers who postulate that SMEs are failing due to lack of technology adaptation and entrepreneurial skills (Nwachukwu 2012). These skills can drive firms' performance and can be categorized as strategic orientation (Coven et al 2006). Social media and entrepreneurial orientation are two critical concepts that can aid MSMEs during a crisis. Social media as postulated by Kaplan and Haelain (2010) is changing how interaction and communication about human beings are done and has become integral in the processes of businesses. Entrepreneurial orientation is no different with the significance it plays in boosting the MSMEs sector. EO refers to resource-intensive strategies (Jiang et al 2018) and social media platforms can now be viewed as resources. It is therefore critical to highlight that EO as a central concept in MSMEs are the ones that are more receptive to social media adoption (Valos et al 2015).

The literature has shown that SMEs enterprises are economic drivers of most countries (Cowling et al 2015), and a number of studies focused on adaptation of social media on SMEs performance (Durkin, McGowan & Mckeown 2013; Wamba & Carter 2016), in addition there are recent studies showing the resilience of SMEs in crisis (Kuckertz et al., 2020; Liu et al., 2020). However, limited research has investigated how these platforms are used in a worldwide crisis such as the Covid-19 pandemic and the impact these platforms have on social media in improving firm's performance (Harrington & Ottenbacher 2011; Zhang et al 2017) and EO as the basis for firm's success.

Ahmad et al (2019) in their study revealed that innovation driven by social media adoption does impact how MSMEs operate in turbulent times. Social media adoption was highlighted in this study to be the agent of change for innovativeness and creativity leading to greater competitiveness.

CHAPTER 3: RESEARCH METHOD

Introduction

This chapter presents the research method of the study. The methodology was chosen after considering the research problem, the purpose of the study, and the theoretical framework. Hence, this inquiry focuses on evaluating how social media applications and entrepreneurial outlooks contribute to the operational performance of Micro, Small, and Medium Enterprises (MSMEs) in central Jamaica in light of the ongoing COVID-19 situation. This chapter outlines the conceptual framework and hypothesis development after consideration of the research objectives, literature, and the underpinning theories. Firstly, the hypotheses were outlined to give background as to how they were developed, then followed by the theoretical framework construct of the 'Technology, Organization, and Environment (TOE)' framework, social media adoption, entrepreneurial orientation, and MSMEs performance.

As the COVID-19 pandemic has been regarded as one of the most notable and influential crises in modern times, economics around the world has been greatly affected, and MSMEs as a main contributor to economic development have become more vulnerable (Alon, Farrell & Li 2020; Effendi et al. 2020). In literature, it has been outlined that MSMEs may need to adopt and change the process and way they conduct business in order to adopt digital technology (Kamenga and Alexander 2017). However, considering the limitations and uncertainties of the role of Social media in MSMEs further research is required to draw analysis of how social media adoption impacts MSMEs performance especially during the period of the Covid 19 pandemic (He et al 2014; Zahra 2018). It is also critical to highlight that businesses that are entrepreneurial oriented are more likely to utilize social media which aids in the process of communication with customers and provides feedback about customers (Valos et al 2015). According to Fatima and Bilal (2019) MSMEs are more poised to perform at a better level if they embrace the entrepreneurial skills in the period of Covid 19, which means restructuring is vital. According to the report published by the Ministry of Industry, Investment and Commerce Jamaica (MIIC 2018) MSMEs in Jamaica are faced with numerous challenges such as lack of marketing skills, operational capacity, leadership issues, problems with communication and technical skills. It is therefore necessary that further studies be conducted into the strategic insights of how social media and entrepreneurial orientation impacts MSMEs in Central Jamaica during the Covid 19. Recent studies done by Kuckertz et al., 2020 and Liu et al., 2020 have demonstrated the

resilience of SMEs during the Covid 29 pandemic and this should also be studied within the context of Jamaica.

Theoretical framework and hypothesis Development

This study utilized the resource based view and the Technology, Organization and Environment technology (TOE) theories to examine how social media adoption and entrepreneurial orientation impact the performance of MSMEs in central Jamaica during Covid 19 pandemic. Through quantitative research, this study investigated the relationship between Social media adoption, entrepreneurial orientation and MSME's performance during Covid 19. Quantitative research identifies generalized concepts and predictions and research can be conducted through the investigation of causal relationships (Earl 2010).

A researcher utilizing the quantitative approach would normally develop his/her hypotheses or research questions then collect data that represent relationships between an independent variable and dependent variables which can be approved or disapproved with statistical analysis methods (Cooper and Schindler 2006). As mentioned in chapter 1, the purpose of the study is to investigate the correlation of social media adoption and entrepreneurial orientation on MSMEs performance within central Jamaica during the covid 19 pandemic. The research hypotheses of the study are as follow:

Entrepreneurial orientation and MSME's performance

Entrepreneurial orientation though an aged old concept with many research papers about the impact on firm performance there are still unanswered questions. A number of studies have used EO and considered different dimensions which inevitably gives different results that can be difficult to generalize considering the varying operationalization of EO (Dutot and Bergeron

2016; Covin and Slevin 1989). There is a difference between entrepreneurial orientation and entrepreneurship. Businesses that are more entrepreneurial tend to be more risk averse and at a time of uncertainties due to the covid-19, MSMEs were forced to be proactive and innovative which are all important elements and dimensions of entrepreneurial orientation (Wange 2008). A number of prior studies have found EO to have a substantial correlation with performance (Covin and Slevin 1989; le et al 2009; Fan et al 2021). As a result this hypothesis was developed as follow:

H1₀. Entrepreneurial orientation is not positively associated with MSME's performance in Central Jamaica

Technology characteristics and social media adoption

Abed (2020) in his study postulated that innovation is key in certain fields. The researcher also concur that technology elements of the TOE framework include sub-concepts such as relative advantage of technology, perceived ease of use and compatibility. The users will consider technology easy to use if they accept that this will improve their work processes and ultimately their performance. Relative advantage is where users will adopt the technology if they consider it to give some advantage that is better than what they currently use. The culture and beliefs of a business is important and therefore compatibility is essential if users feel the technology aligns with the culture, procedures and processes of their business operations. If MSMEs are faced with a crisis then they are more likely to accept its use (Qalati et al 2021; Effendi et al 2020). The hypothesis was developed from this background knowledge:

H2₀ Technology characteristics have no positive influence on social media adoption by MSMEs in central Jamaica.

Organization characteristics and social media adoption

Organization characteristic deals with the resources and capabilities of the business, it is about the firm readiness and their processes and procedures. The position of the business can determine how technology is adopted, as it depends on the financial strength, top management belief and acceptance. Top management as a sub factor of the organizational concept looks at how managers 'buy-in' to the ideas of changes especially where technology is concerned (Abed 2020). Prior research has shown that organizational characteristic has a positive relation to social media adoption (Effendi et al 2020). This as the background helps with the hypothesis that:

H3₀ Organisational characteristics have no positive influence on social media adoption by MSMEs in central Jamaica.

Environment characteristics and social media adoption

The covid-19 pandemic created an environment that was turbulent for the MSMEs and more specifically these businesses that operate in central Jamaica. Bravo et al (2022) posit that the environment characteristic covers competitive and customer pressure. As the Covid-19 created many issues MSMEs were faced with added competition from the other businesses and customers in having to develop ways and strategies of handling the demands and the changes due to restriction of movement and lockdowns (Religia et al 2020; Bravo et al 2022). A number of studies such as Qalati et al 2021; Effendi et al 2020; found from their research that environment characteristic has a substantial influence on social media adoption which hypothesized how MSMEs performance when the environmental factor is activated as a result the hypothesis was formed as follow:

H40 Environmental characteristics have no positive influence on Social media adoption by MSMEs in central Jamaica.

Social media adoption and MSMEs performance

The dissemination of information among stakeholders is essential for knowledge and social media usage is an ideal way of presenting information for the benefits of stakeholders (Mun et al 2022). Social media is a significant resource in businesses which aid the operations for day to day transactions to include the customer engagement activities, promotion, and sales (Matarazzo et al 2021). Social media adoption involves the use of number platforms such as whatsapp and facebook which are relatively cheap but impact on customer service and access to information for business to maintain their competitive edge. A number of researchers have found social media adoption to have a positive substantial relation with performance and usage of these platforms have become common among varying sizes of businesses (Qalati et al 2021). This background information has given rise to the following hypothesis for this study:

H50 Social media adoption has no positive effect on MSMSs performance in central Jamaica.

Entrepreneurial orientation and social media adoption

Entrepreneurial orientation and social media adoption are not new phenomena in literature. There are fewer studies that have looked and linked both concepts of EO and SMA. Entrepreneurial orientation has been proven to create competitive nature within organizations as firms act entrepreneurial in their operations (Fang et al 2022). It is through the entrepreneurial thrust of firms that innovation and the drive for technology adoption are ignited and engaging in

these activities are not without the risk and uncertainties (Zahra 2018). The covid-19 created a level of uncertainty within the MSMEs sector and social media was the way that these businesses employed in ensuring that they remained viable and relevant thus being the impetus for owners and managers to act entrepreneurially (Tajudeen et al 2018). According to Nguyen et al (2022) the higher the entrepreneurial level is the more likely that will drive the adoption of technology and this has led to the following hypothesis:

H6₀: There is no positive relation between entrepreneurial orientation and social media adoption.

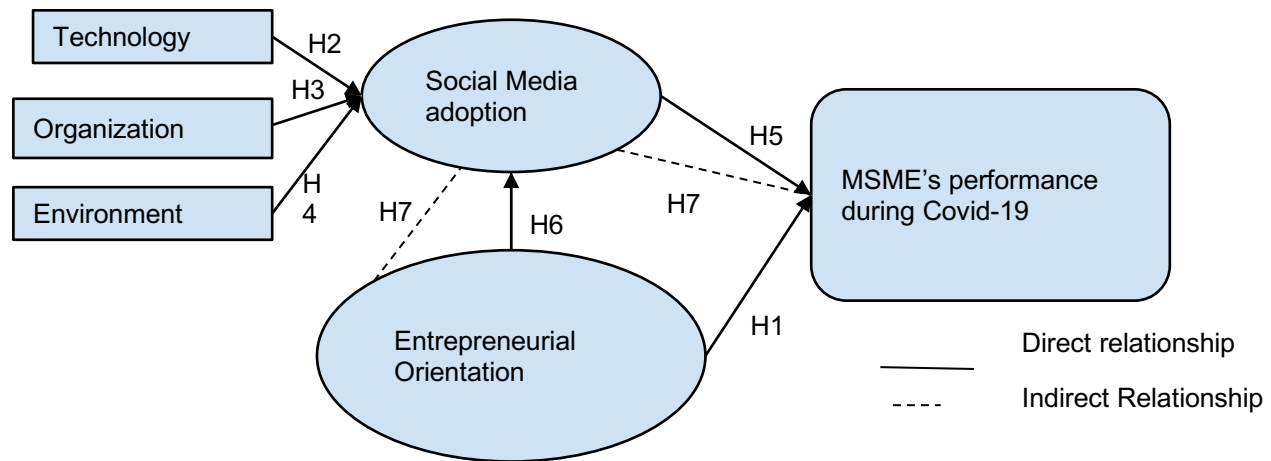
Mediation role of social media adoption

The concept of using social media as a mediator for entrepreneurial orientation is not widely done. However studies have shown a direct relation between social media and entrepreneurial orientation Dutot and Bergeron (2016). There are many studies that have shown different mechanisms of how entrepreneurial orientation is affected in relation to firm performance. However, Qalati et al. (2021) postulate that very few studies investigated how social media mediates entrepreneurial orientation. Entrepreneurial orientation as a capability of an organization can be mediating by social media adoption and hence the hypothesis:

H7₀: There is no positive relation between entrepreneurial orientation and social media adoption as a mediating role on MSMEs performance

Figure 4

Conceptual Framework with hypotheses



The construct of reflective lower order Indicators (TOE)

The use of the Technology-Organization-Environment framework has been used in numerous studies such as Oliveira & Martins 2008; Kuan & Chan 2001 Rohani et al 2018; Mohammed et al 2022, who found substantial correlation between TOE and social media adoption in businesses. Whereas Effendi et al found that TOE impacted e-commerce during the covid-19 pandemic. The TOE framework has always been linked to innovation and has shown to be meaningful in expounding on the predictive power of the framework (Eze et al 2013; Chau & Tam 1997).

The TOE framework is known in research for the adoption of new technology. It covers three dimensions: Technology, organization and environment which are used to create a stable and robust system of social media acceptance in businesses of varying sizes (Awa et al 2017). In this study three sub-strats of the framework were used to create one concept of each, therefore for technology concept, relative advantage, complexity and compatibility were used to create the technology reflective construct to identify the direct relation with technology and social media

adoption. For the organization concept three sub-areas were used for this construct namely: employees skills/expertise, perception and top management support. The environment characteristic used competitive advantage, government support and environmental uncertainty as the areas for research under that concept (See figure 1). In the case of Baker et al (2019) they looked at observability and compatibility and how the MSMEs decisions were influenced to adopt social media. Other researchers such as Leung et al (2015) were more interested in looking at a firm's resources and how they impact technology and innovation from an organizational perspective. A number of other researchers have seen environmental context as the pressure to be competitive and how the government supports businesses especially MSMEs in a crisis and along with environmental uncertainties. Therefore the environment created a level of pressure due to restriction of movement and distancing (Bravo et al 2022). The findings of Zhu and Kraemer (2005) and Zhu et al (2006) were used as a reference for the conceptual construct for this model.

The Social Media Adoption construct

Over the years a number of studies have shown the importance of social media adoption to businesses. In 2010, Solis found that social media is a way that businesses use to deal with customer retention in how the platforms deal with customer issues. It was also found by Kin and Ko (2012) that social media usage has aided businesses with marketing and promotional campaigns and improved customer engagement. In 2013 Ferrer et al found that social media has impacted positively on how firms handle customers and make the organization more customer focused. This study was also supported later by Rodriguez et al (2014) that being customer focused does impact on how the firms perform overall. They further the research findings by

outlining that social media do aid employees to work together to achieve common goals thus impacting the performance. Parveen et al (2016) in their research found that social media can also aid with competitive knowledge where information can be shared and even obtained about competitors and not only the needs of clients. They further postulate that possessing information about competitors can increase innovation and drive competitiveness in the market. Ahmad et al (2018) also contributed to the benefits of social media in organizations when they substantiated the findings that support previous studies that social media is an affordable innovation that has been known as a way of reaching clients. In a more recent study done by Wnag and Haung (2022), the development of technology has made it easier for businesses to communicate and deliver better quality service especially in a crisis.

The construct of social media adoption served as a higher order construct where direct relations were measured from the TOE lower order reflective model. The model was adopted from Ahmad et al (2018) who investigate the impact of social media adoption and its impact on firms performance in the UAE. The construct was what informed the design of the social media adoption construct for this study.

The social media construct will also be used as a mediator for entrepreneurial orientation in the research. Not many researchers have looked at social media as a mediating variable. However, Fan et al (2021) incorporated social media as a mediator to entrepreneurial orientation on firm performance and found that there is a partial mediation effect. According to Karami and Tang (2019) entrepreneurial orientation can produce numerous benefits to organizations in terms of improved performance as EO is seen to be a capability resource, and hence the Resource

Based view (RBV) supports capabilities of organizations that enhance performance. As a result, this research modeled the studies of Fan et al (2021); Wiklund 2003; Lumpkin and Dess (1996), where capabilities of an organization are essential to entrepreneurial orientation and as such social media adoption is considered as a capability for MSMEs in mediating entrepreneurial attitude (Fan et al 2021). The study of Fan et al (2021) was used as the reference in creating the mediating aspect of the social media adoption construct for the framework. Overall, Qalati et al (2021) also found a significant relation between social media adoption and SMEs performance. This was used as reference for the creation of the conceptual framework and the construct for social media.

Entrepreneurial Orientation Construct

In this research three dimensions of entrepreneurial orientation were adopted according to Covin and Slevin (1989), who felt that companies are truly entrepreneurial when they use these three dimensions of risk, proactiveness and innovativeness. From literature it has been accepted that all dimensions of entrepreneurial orientation should work simultaneously when they all contribute to performance equally. However, even though each can vary they the rise in EO should be as a result of the increase in the dimensions (Covin and Slevin 1991; George and Marino 2011).

There are two main views of entrepreneurial orientation, one is unidimensional and multidimensional. The Unidimensional perspective of EO sees the three dimensions of risk, proactive and innovative as one construct forming a unified single measure of entrepreneurial orientation (Covin & Slevin 2006). However, on the other hand Covin and Miller (2014) postulate

that multidimensional approach deals with the dimensions of entrepreneurial orientation as independent of each other. Lumpkin and Dess (1996) outlined two additional dimensions in comparison to Miller (1983) three dimensions. It is therefore for researchers using the multidimensional approach to treat each dimension separate from each other as firms may find that they may be lower in one dimension but high in other (Covin and Miller 2014). Defenders of unidimensional entrepreneurial orientation such as DeepaBabu and Manalel (2016), believe that using the multidimensional approach is to aid with identifying the combinations of dimensions which is unique for companies.

In this study the unidimensional approach was used as all three dimensions were considered as a unified measure that was used to show the direct relation between entrepreneurial orientation and firm's performance and all social media adoption as a mediator variable. Therefore the construct of EO followed the Covin and Slevin 2006 three dimensions of entrepreneurial orientation as shown on figure 2.

The construct of Firm's performance

Firms' performance has been in research papers for many years as this is one of the main reasons in order for companies to remain viable and sustainable. Company effectiveness is essential when it comes to business focus and ideas, and is one of the key concepts of company performance that stems beyond financial performance but also non-financial (Teo and Choo 2001; Wiklund and Shepherd 2005). There are key performance indicators that every business tries to achieve at the optimal level (Syarifah et al 2020). For MSMEs owners and managers,

performance extends to the well-being, and growth of their establishment and to achieve the highest is a major goal. In business, incorporating the various indicators of performance can be advantageous as performance can be multi-dimensional and should be considered in empirical research (Wiklund & Shepherd 2005)

The indicators of firms performance can vary and MSMEs measure the success differently. Afriyie et al (2020) measure performance by looking at customer contentment, sales and profitability. On the other hand, Chalal et al (2016) look at performance from the view of the reputation of the business, the level of staff turnover if retention is high and if the employees feel satisfied. This study developed the construct of performance to investigate how the MSMEs performed during covid-19 by looking at the sales volume, the customer service provided and the brand awareness of the businesses.

The following paragraphs of this chapter will outline in more detail the research approach and design, the appropriateness of the methodology and the design utilized. A description of the population including size, characteristics and sampling information. Instrumentation of research tools will be highlighted to include information about the instrument used in data collection and will encompass information about validity and reliability instruments. The chapter will also outline the operation definition of variables used in the study, with the procedures of how the study was conducted and how ethical assurance was handled. The final aspect of this chapter outlines the data collection, analysis and a summary.

Research Approach and Design

Research Philosophy

Saunders, Lewis & Thornhill (2009) consider research philosophy as the nature and development of knowledge. The research philosophy comprises ontology, epistemology and methodology. According to Creswell & Poth (2018) ontology is the study of the nature of reality which deals with the assumptions that researchers are made to believe something makes sense (Scotland 2012). This philosophy is crucial to the researcher as ontology helps the researcher make meaning of the data collected. Quantitative research came about from the positivist assumption that reality is single, tangible and fragmentable (Needleman & Needlemand 1996; Yilmaz 2013). A positivist researcher generally seeks out facts in terms of relationships among variables with the aim of testing and verifying hypotheses. Hence, the researcher's ontological position influenced the choice of quantitative study instead of qualitative. This research problem could be addressed using a constructivist view, which is collecting qualitative data through interviews and/or observations. However, other studies about social media adoption and entrepreneurial orientation have used quantitative methods such as Al Mamun, Bin Yusoff & Ibrahim 2018; Hart O. Awa, Ojiabo Ukoha, Sunny R. Igwe, (2017). According to Thorpe and Jackson (2015) internal realism, which is a concept of ontology, assumes that one reality exists; however, there are differences in human perception that provide indirect access to this one reality. The nature of this reality can be drawn indirectly from the data collection from MSMEs and the use of statistical analysis can be objective and replicable and aid in the explanation of human behavior (Easterby-Smith, M., Thorpe, R., & Jackson, P. R. (2015). It is through the

concept of internal realism that primary data was collected via online medium from MSMEs in Central Jamaica where the data was analyzed and derived at generalization of data.

Positivism is associated with observable social reality (Saunders et al 2009). A neutral and objective role was taken during the data collection in order not to influence the empirical results of the research and as postulated by Bryman (2012) quantitative research mainly relies on positivism which explains my epistemological stance for this research. This concept of epistemology helps to determine how researchers engage in a study to uncover knowledge in the context of what is being investigated, therefore the researcher is outside of what is being studied. However, unlike the qualitative approach where there is interaction between researchers and participants, reality is mind-dependent and socially constructed as perceptions and interpretations are ways of understanding people (Slevitch 2011).

Methodology philosophical assumption for research guides data gathering and helps in determining the methods. In quantitative research, here the researcher develops a generalizable explanation about what is being studied by the use of statistical measurable tools (Yilmaz 2013). A quantitative researcher would develop his hypothesis or research questions then use a survey instrument to ascertain data that represent relationships between an independent variable and dependent variables. In the survey approach, casual relationships between variables can be approved or disapproved with statistical analysis methods (Cooper and Schindler 2006). According to Earl (2010), quantitative research identifies generalized concepts and perditions and investigation can be done to investigate causal relationships. In addition, quantitative research uses methods such as experimental research, survey research, correlational research and quasi-experimental research.

Research Method and appropriateness Design

Creswall (2013) postulates that the plans and procedures of research approach range from making broad assumptions to the point of identifying detailed methods of how data will be collected, analyzed and interpreted. Selecting a specific research approach contains several factors to consider as the nature of the problem or the problem being addressed, personal experiences of the researchers and even the target group for which the study is being conducted can greatly affect the research approach selection (Lewis 2015; Guetterman 2015). The quantitative research method is used when there are more than one variable to form a correlation. This type of research method aids to answer questions of how a change in one variable affects the other variable. Quantitative analysis is normally used to establish relationships among variables (Jones & Kottler 2006). This quantitative research analyzed the relationship between the dependent variable of MSMEs performance and the independent variables of social media adoption and entrepreneurial orientation.

According to Saunders (2003) all research will include some numerical data to aid the researcher to answer their research questions and accomplish the objectives of the study. Quantitative research encompasses the process of collecting numerical data and then making analysis through statistical methods to explain a certain phenomenon (Haq 2014). Mujis (2010) argues that quantitative research assumes that there is only a single reality therefore the researchers cannot be influenced in any way unlike qualitative research that postulates that there is no pre-existing reality. Quantitative research “explains phenomena according to numerical data which are analyzed by means of mathematically-based methods, especially statistics” (Yilmaz, 2013, p. 311). This type of research looks at relationship between variables and hence this method was chosen for this research to better understand the relationship between social

media adoption and MSMEs performance in addition to how entrepreneurial orientation impacts MSMEs relations in central Jamaica during the COvid 19 pandemic. However, qualitative research is normally used where there is little to no knowledge of a phenomenon.

Correlational research

The proposed research will investigate correlational relationships, how social media adaptation and entrepreneurial orientation impact on MSMEs performance during covid 19. A correlational research is a type of quantitative research method within the positivism paradigm (Anderson & Arsenault 1998). The process of correlational research normally follows the step of identifying variables of the study, establishing the research questions and hypotheses, then selecting appropriate samples from data collected (data collection), calculation of correlations and then reporting the findings.

When using quantitative research it enhances the generalization of the results as the sample is normally drawn from the population. This method also gives a summary of data from which generalization can be concluded. In addition, comparisons can be made about the use of social media and entrepreneurial orientation and MSMEs performance with different businesses within the industry. Quantitative method of research is more likely to generate a high level of reliability of gathered data (Balsley 1970) and in this research it is important to collect data that is reliable from participating MSMEs in Jamaica. This method also minimizes subjectivity of judgment (Kealey and Protheroe 1996). A correlational research therefore focuses on assessing the covariance among naturally occurring variables. There is no manipulation of variables in correlational research and these research are normally known as associational research where relationships among variables are investigated (Aliaga and Gunderson, 2000). Muller et al 2018 designed a correlational study to investigate the factors affecting the usage of social media

In a predictive correlational study there are two forms of variables, predictor variable which is considered independent variable and criterion variable which represents the dependent variable. The independent variable is considered to be the one that predicts the outcome. In this study the dependent variable can be identified as the MSMEs performance in central Jamaica whereas, the independent variables are social media adoption and entrepreneurial orientation.

An explanatory research design is basically to investigate the reasons of why there is a correlation between two or more concepts (Rashid 2012). There is a difference in investigating the trends of social media adoption and entrepreneurial orientation and to describe what is social media adoption within a business. The principal goal of an explanatory design is to determine the correlation of variables. Another requirement of explanatory design is that data should be based on one group and collected at one time. Another characteristic of using the explanatory correlational research is that calculation has to be done to identify the correlation strength as conclusion is drawn from the statistics (Rashid 2012).

The Deductive Approach

The scientific method of research is considered as the procedure of developing laws and theories that explain, predict and understand phenomena (Hunt 2010). The two common forms of inferences are inductive and deductive approaches. This current study uses a deductive approach, where the hypotheses were developed from past studies. The deductive researcher works from the top down from a theory or other research to hypotheses to data to add or contradict the theory (Creswell and Plano Clark 2007). However, the inductive approach is where the researchers work from bottom to the top. According to Taylor et al (2002) inductive approach is to develop a

theory instead of testing one that already exists. The researcher chose the deductive approach as the inductive approach has limitations where conclusions drawn may not be logical consequence. This approach only expects the phenomenon to occur given the observations (Hunt 2010). Bryman & Bell (2011) postulate that deductive theory is the one of the most common views of the relationship between theory and research. For this research hypotheses were deducted from research done in the past which must be tested and scrutinized (Byrman and Bell 2015). The deductive approach was chosen as studies have shown that the current study type has been used in other studies relating to social media adoption and entrepreneurial orientation.

In this study, the deductive inference started with generalization which are firm's performance , social media adoption and entrepreneurial dimensions framework and then examines observations which are the dependent variable used in social media and entrepreneurial orientation research to see if they support the generalization to decipher if all dependent variable fit within the proposed framework.

Rationale for research design

According to Frey (2018) a correlational design is a non experimental research that looks at the relation between independent and dependent variables. It's about identifying patterns of associations that may exist between variables using the regression model as a way of predicting the change in variables (Friedman 2007). Manipulating variables reflects a quasi-experimental design (Sheweizer et al 2016), which does not align with this research as there were no controlled or manipulated variables. Rockers et al (2015) state that studies involved with cause and effect can be categorised as quasi-experimental which is different from the research design

of this study. A descriptive research design is to give insights about the sample (Coe et al 2017). This study required more than just a description of the MSMEs in central Jamaica hence this was not selected. An exploratory design is normally used when the researcher wants to explore what he wants to study which offers more flexibility and can be done through a literature of engaging more in the literature to determine what to study (Roni et al 2019). This was not appropriate for this study and was not selected. On the other hand, an explanatory design which was more appropriate for this study looks at giving explanations to behaviours and to test hypotheses and to determine the cause and effect of a phenomenon (Riazi 2016).

A correlational design was most appropriate for this study to investigate the strengths of relations between two or more variables (Wilson and Joye 2016). There are numerous studies that have used correlational design to investigate the relationship of social media adoption and entrepreneurial orientation to firms' performance. Fan et al (2021) used quantitative correlational research to investigate the effect of EO on social media and performance. Karami and Tang (2019) used similar design to investigate EO and the mediating role of experiential learning in small, medium enterprises.

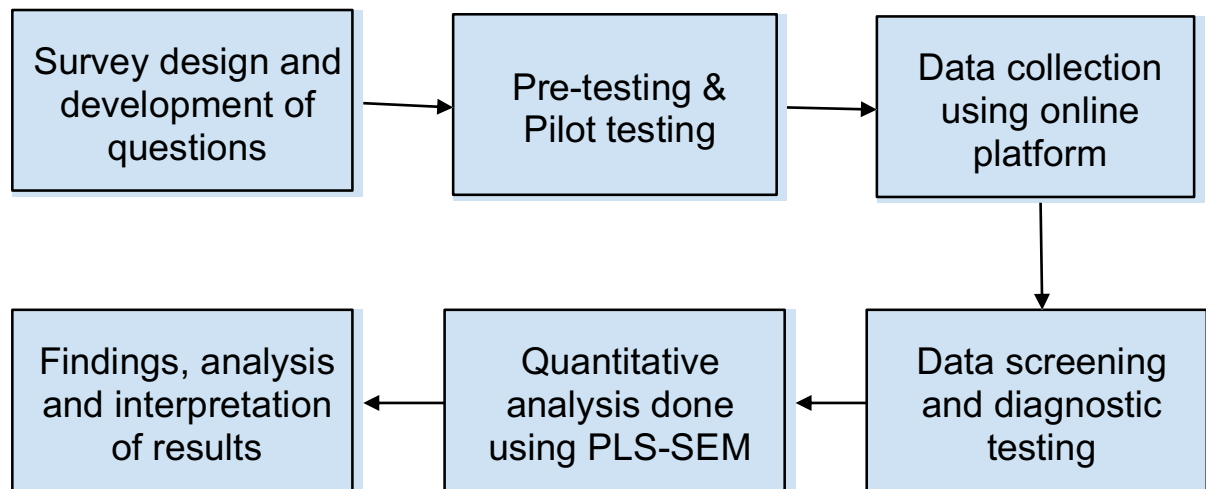
Figure 5*Design of quantitative research steps*

Figure 5 illustrates the design for this quantitative research. The focus of the study was to ascertain information about how social media adoption and entrepreneurial orientation use in MSMEs during the covid-19 pandemic. The analysis of MSMEs was accomplished through samples of these MSMEs in central Jamaica.

Structured and validated data collection instruments are important for when quantitative data is collected as precise measurements form the base. Quantitative data measurement involves statistical reports with correlations, comparisons of means and statistical significance of findings (Johnson & Christensen 2008). The research utilized a primary data collection method through the use of an online survey done on surveymonkey platform. The survey includes demographic data, social media adoption specific questions that cover technology, organization and the environment framework, entrepreneurial orientation questions were also included. The objective of the step identifies the need to obtain measurable numeric data which could then be translated into descriptive information to give meaning. Collecting primary data can be time-consuming however, it gives great value and is relevant to the data (Bryman & Bell 2011). The survey was distributed using a snowball sampling method and random sampling to a lesser extent. This was done due to the nature of MSMEs owners and managers who are close knitted and can be

challenging to gain access. According to Dillman (2014) an online survey can be an effective method of gathering data from a large population.

A pilot study was done by the researcher to examine the study methods and data collection process before the actual study (Reed et al 2007). Fifteen (15) volunteers were used to aid in determining validity and reliability before the actual study started. An online survey was administered to participants who are either owners, managers or senior employees within MSMEs in central Jamaica. A sample population was taken and 154 owners, managers and Senior employees completed the survey. After collection of the data the next step was to perform data screening and diagnostic testing to ensure that the data was suitable for statistical analysis. The data for this research underwent two stages as recommended by Hair et al (2006). The first step was data screening. This was used to detect missing data where the information collected using surveymonkey was coded using numbers. A likert scale was used there to strongly disagree to strongly agree used numbers from 1 to 5. There was no significant data missing and hence no need for remedial measures of fixing such problems. The step was diagnostic testing, which looked at the normality, linearity and multicollinearity of the data. This was performed before other assessments were done such as measurement and structural models (Hair et 2014). After the results were interpreted and analysis and findings provided about the data collected.

Population and Sample

The population size of this study is 295 Micro Small and Medium Enterprises (MSMEs) in central Jamaica registered by the Chamber of Commerce and the company office of Jamaica. All the parishes within the southern section of the country that covers three parishes are considered to be central. The population of people living in the central region of Jamaica has an

estimated population by parish as follows: Manchester 191,720 St. Elizabeth 151,911, clarendon 247112 (Citypopulation.de).

Figure 6

Map of Jamaica that constitutes the population of the study.



https://www.shutterstock.com/search/jamaica-city-vector?image_type=vector&page=9

The following criteria was used to determine the MSMEs to be apart of the study: (a) the number of employees should be between 1 - 50 staff working mainly on a full time basis, (b) the business should be owned and privately operated (c). must have adopted the use of social media and other entrepreneurial skills during the covid 19 pandemic, (d) should have been operational during the covid 19 pandemic and finally businesses can be from any sector (e) registered with the registrar of companies in Jamaica (legally operated). Therefore, new MSMEs that commence operations after the height of the COVID 19 period will be excluded, operating less than a year. Managers who are employed to any MSMEs less than two years.

Table 5*Population of MSMEs*

Adopted from <https://www.miic.gov.jm/content/msme-sector>

<i>Firm Category</i>	<i>Total Annual sales/Turnover</i>	<i>Number of Employees</i>
<i>Micro</i>	<i><J\$15 million</i>	<i><5</i>
<i>Small</i>	<i>>J\$15 million < J\$75 million</i>	<i>6-20</i>
<i>Medium</i>	<i>>J\$75 million < J\$425million</i>	<i>21-50</i>

The demographic profile of the participants are owners and managers who are in charge of strategic planning and leadership within any MSME. As a result even though the labor laws of Jamaica see workers being active up to 65 years of age, the research did not use this as a criteria as there are some owners who would have been older than the age stipulated by the laws. In Jamaica MSMEs contributed heavily to the national economy and Gross Domestic Product of the country. With this in mind it is also important to note that the Covid-19 pandemic has impacted the sector. With the implementation of restriction policies and lockdowns some businesses were forced to close (Dewi and Melati 2021). The number of official or registered MSMEs that

support the central region of Jamaica is approximately 295 according to the company's office of Jamaica. The inability to directly access owners and managers as participants required the use of a targeted sample through the usage of snowballing to have these surveys done. It is through the difficulty of recruiting research participants who are hard to reach why snowball sampling has become a popular choice for researchers (Parker, C., Scott, S., & Geddes, A. 2019). The survey was also sent by email to the Chamber of commerce in the three regions that make up the central region of Jamaica, soliciting owners and managers to participate in the survey. The email was sent from my email account to have direct access to the information and others were sent from managers and/or owners who are acquainted with other owners and/or managers. The platform survey monkey allows for direct access of information as the account is only registered to me therefore all the responses were sent directly to that account.

Purposive sampling methods are normally known for qualitative research where their population is frequently considered as hidden which impacts the sample size. However, this type of non-probability sample is now being used in quantitative research where it is cheaper in cost relatively, even though it takes more time to complete, but now is being used to reach a larger population (Fricker 2008 Miller & Sonderlund 2010). Validity is a concern when using a purposive sampling method for a large online sample (Couper 2000, Lohr 2010). However, there is always a caveat when purposive sampling is used in quantitative research to highlight that the results should not be generalized beyond the sample (Williamson 2003).

This non-probability sampling technique was carried due to the special nature of the research where the criteria were used to ensure that the correct standards were met. Snowball sampling as a part of purposive sampling was also used as locating, accessing and involving people from specific populations in cases where researchers anticipate difficulties in creating a

representative sample of the population (Valdez & Kaplan 1999). The researcher also utilized a snowball sampling strategy as it is difficult to gain access to owners and managers without networking or referral being made. The use of the entire population of MSMEs in central Jamaica is impractical due to cost and the time necessary for reaching the entire population. As a result the sample of MSMEs in central Jamaica can be reliable in identifying the entire population of MSMEs in this region (Saunders et al 2009). The research did not utilise non-probability sampling techniques in the form of convenient sampling where the data was collected by the researcher from participants who were accessible and available. This is supported by Sedgwick (2013) who postulates that data can be collected from participants who are available. Therefore, some MSMEs who were willing and available to participate were approached; however, most did not possess a certificate of registration from the registrar of companies in Jamaica and did not meet other requirements. Non-probability sampling technique is used for a purposive measure to fit the study. This is also a convenient sampling that enables the researcher to collect primary data where it is first accessible. According to Sedgwick, (2013) data can be collected from where participants are available. This technique was not employed because the survey produced on surveymonkey was sent on a group platform to ascertain information from owners and businesses who were willing to participate in the research.

Sample Size

An adequate sample size should be adequate in order to avoid sampling errors or biases given that it was a purposive sampling method. The absolute size of the sample is essential to the relative complexity of the population, the aims of the researcher and the statistical manipulation used to analyze the data (Taherdoost 2016). Yamane (1967) utilized the sample method equation to determine the sample size:

$$N = \frac{\frac{X^2 NP(1-P)}{d^2 (N-1) + X^2 P(1-P)} + \frac{X^2 NP(1-P)}{d^2 (N-1) + X^2 P(1-P)}}{2}$$

$$n = \frac{\frac{1.96^2 295 \times 0.3(1-0.3)}{0.3^2 (295-1) + 1.96^2 \times 0.3(1-0.3)} + \frac{1.96^2 295 \times 0.3(1-0.3)}{0.3^2 (295-1) + 1.96^2 \times 0.3(1-0.3)}}{2} = 154$$

n = recommended sample size

X^2 = The confidence level is 95% which is $x=1.96$ with a margin of error of 5%, which is the degree of accuracy stating that it is 95% accurate with a 5% error margin.

N = Population size (295)

P = the population portion is 30%

Snowballing was utilized to minimize the decline of survey responses (Dusek, Yurova & Ruppel 2015).

Measures and construct of variables

According to Bryman and Bell (2011) a way of testing the instruments such as surveys that they are consistent and correct, is done through measurement of the constructs comprising the variables. Validity and reliability tests are two ways of ensuring that the instruments are fit for use. Validity is how well what is intended to be measured was actually measured. The tool has little to do with the validity but more so the interpretation of the tool whether it's a survey or questionnaire. Reliability on the other hand, looks at how the items on the assessment tool

measure the underlying concepts without errors (Sullivan 2011; Hair et al 2013). A number of tests can be used when testing these measures. Cronbach alpha, confirmatory factor analysis (CFA) and composite reliability are tested using the SmartPLS 4 software to determine the reliability and validity of the structure. As outlined by Hair et al (2017), 0.7 is the minimum benchmark score in order to achieve validity and reliability.

In his study there are four constructs, however, the technology, organization and environment construct were subdivided. All these constructs were measured from items presented on the survey. All the questions were closed answers and represented on a continuous scale where ratings ranged from strongly disagree to strongly agree with numbers from 1 to 5 respectively. The implementation of this Likert scale with five points was adopted as it's easy to use and there is a middle point that if respondents neither agree or disagree then they can be neutral. It also helped with bias control as there are not too many options to select from and participants may not get confused too easily (Joshi et al 2015).

The survey instrument was adopted from previously used scales about social media adoption and entrepreneurial orientation in different regions. The areas of social media adoption, entrepreneurial orientation and small and medium business performance were adapted from the design of Fan, M., et al (2021) and Ahmad et al (2019). The research used a 5-point Likert scale (1- strongly disagree, 2- Disagree 3- Neutral, 4- Agree, and 5- strongly agree). This Likert scale has been used for social media adoption by Ahmad et al (2019); Entrepreneurial orientation Dutot & Bergeron (2016) and firm's performance Ahmad et al (2019). The measures used in the survey were based on literature and previously confirmed reliability and validity and minor adjustments made where necessary. The scale is useful in social sciences and also an ideal tool to measure latent variables (Tanujaya et al 2022).

Technology Organization Environment (TOE) and Social media adoption

The measure of technology, organization and environment were evaluated based on owners and/or managers who took the survey; these were all endogenous variables that served as lower order construct in the model. Questions were specifically designed to ascertain data about how the theoretical frame of the Technology, Organization and Environment affect the adoption of social media. The survey had sub-categories relating specifically to each component of the theoretical frame. Therefore, the technology aspect covered relative advantage, compatibility and complexity, with a total of 12 questions, with 4 for each category. The organization aspect covered the areas of top management support for social media adoption, employees readiness and the size of the firm. The aspect of the environment looks at government support, Competitive pressure and environmental uncertainty. A Likert scale was used to evaluate the owners and/or managers perception and the antecedents that drove social media platforms adoption during the Covid-19 period. According to Nunnally (1978) a minimum of three items should be used per construct to ensure adequate reliability. This was done for each of the three constructs which was previously validated and showed reliability (Fan, M., et al 2021).

Variable 1: Social Media Adoption (Independent variable)

Social media adoption, examined as an independent variable, looked at how MSMEs in Central jamaica used and implemented technology to maintain performance during the Covid 19 period. Due to lockdowns and restriction of movement many MSMEs were affected and as stated by Fan et al (2021) social media platforms are key stimulants in contributing to the development of entrepreneurial activities if MSMEs were to survive. Social media adoption therefore, helps to boost firm's performance. Effendi et al (2020) States that social media is

expected to drive the pace of business in SMEs to recuperate the effect of Covid 19 pandemic but MSMEs need to improve their approach of utilization of online networks. Social Media/Social networks are the social structures composed of individuals and organizations, which engage with each other through specific activities in virtual networks (Hansen, Dunne & Shneiderman 2010).

Parveen et al (2016) social media usage was adapted for this research as the questionnaire items had cronbach validity above the 0.7 standard. The average score of his validity and reliability tests produced a score of 0.897 which is a high level of validity and reliability and suggest that the items can be reused considering they are proven to be valid and reliable. Four items were adopted to ascertain information about how social media was used during the covid-19 pandemic.

Theoretical Considerations

AS MSMEs grapple with the challenge of survival amongst one of the most notable and significant crises in modern times of the coronavirus pandemic (Covid 19) (Alon, Farrell & Li 2020), businesses need to strategize ways of attaining and maintaining performance in order to remain variable. However, adopting social media is not without risk and it enhances uncertainty (Zahra 2018). Therefore social media adoption should be assessed with the background of Technology, Organization and Environment (TOE) theory. The TOE framework was developed by Tornatzky(1990) and has seen several studies exploring information systems problems and adoption of technology utilizing this concept. The technology context refers to current and new technologies that can be applied to the organization. With regards to organizational context it deals with features that characterize a firm by its size, managerial level, employee skills and

scope. Environmental context refers to competitors, industry government agencies and the overall environment in which the firms operate (Qalati et al 2020).

Technology Context (TC). The technology context as described by Rogers 2003 outlined five technology characteristics that lead to innovation. Compatibility of the technology refer to how other technology is consistent with what is already in an organization and whether its is ready for use. Relative advantage of technology is to decipher if firms believe that adoption to these new technologies would give an advantage. The aspect of complexity deals with how easy it is for firms to accept the technologies and whether or not the customers perceive that the technology helps and trialability is to determine the ase at which the innovation can be tested before adaptation. According to Haridakis and Hanson (2009) social media usage can be transferable via recommendation from others and can be halted without additional cost (Valenzuela et al 2009), hence these were chosen for the study.

Organizational Context (OR). Top management support is essential for MSMEs if they ar eto adopt new technology and be provided with adequate resources (Lin 2014). The organizational context is about the firm internal characteristics, which focused on the size of the MSMEs, the staffing, and network relationships (Tornatzky and Fleischer 1990). A number of other previous studies have shown that the support of top management is essential for adoption of new technology in an any organization (Admad et al 2015; Nguyen 2009, Zhu et al 2003).

Environmental Context (EU). Tornatzky and Fleischer (1990) postulate that environmental factors look at the industry structure, suppliers and regulatory systems. The adaptation of technology can influence and affect changes in an industry structure (Porter and Millar 1985). When dealing with the environmental context competitive pressure considers the rivalry within an industry (Lertwongstien and Wongpinunwatana 2003). The idea is that firms

come under pressure when competitors are innovating.

Fan et al. (2021) in measuring the construct of technology, organization and environment (TOE) has a Cronbach alpha score for each item above the 0.7 threshold and composite reliability about 0.8. The Cronbach results signifies internal consistency and validity and prove that the items can be used considering the validity has been confirmed. The technology items used by Fan et al (2021) has relative advantage with average Cronbach score of 0.8490, perceived cost 0.7250 and perceived benefits 0.8400. On the other hand, the composite reliability score was 0.8160. The organisational context of the TOE construct has top management Cronbach validity as 0.8460, and organizational readiness as 0.829 and reliability score of 0.8070 whereas the environment context competitive pressure with 4 items on the questionnaire with average score of 0.8340, regulatory environment 0.8513 and government support with average score of 0.8310. The composite reliability score for this context is an average of 0.7290. The basis of these results were used to adapt these questionnaire items for this research as the validity and reliability were already established.

Table 6

Codes used in construct for TOE and SMA

Codes -	Type of indicator:	Number of Indicators:
SM- Social Media (TOE)		
TC- Technology Context	Reflective	36
OR- Organization		
EU - Environmental uncertainty		

Table 7*Construct and variables of TOE and SMA*

Name of construct and variables	Source of measurement of item
Social Media Adoption <ul style="list-style-type: none"> a. Level of social media utilization b. Social media platform mainly used c. Number of years using social media d. Budget allocated for social media platforms 	
Technology context: <ul style="list-style-type: none"> a. Develop customer relations b. Helps image development c. Enhances marketing and promotion d. Helps with productivity e. Easy to use f. Compatible with products 	Tajudeen et al 2018; Quality et al 2020; Ahmad et al 2019; Fan et al 2021.
Organization Context: <ul style="list-style-type: none"> a. Perceived cost affects how SM is adopted b. Size of organization impacts how SM is used c. Employees skills and willingness to use SM d. Support from management to use SM e. Perceived benefits of SM 	
Environment Context: <ul style="list-style-type: none"> a. Sense of government support to access SM b. Competitive pressure drives SM usage c. Environment uncertainties impacts how SM is adopted d. Helps with complex changes 	

Variable 2: Entrepreneurial Orientation (EO) (Independent variable)

This study is to assess how MSMEs used the dimensions of EO to impact a firm's performance during the COVID-19 pandemic. The concept of EO outlines product-market innovation and the undertaking of risks (Miller 1983). The ability to be innovative, proactive and

take risk is critical in how MSMEs in central Jamaica responded to the COVID-19 pandemic. The dimension of entrepreneurial orientation was developed by Khandwalla in 1997 but then these were modified by Covin and Slevin (1989). Entrepreneurial Orientation: are the strategies employed by firms to be innovative, to be proactive and to be cognizant of the risk-taking decisions and activities (Presutti & Odorici 2019; Rauch et al 2009).

Theoretical Consideration

The three basic dimensions of Entrepreneurial Orientation as outlined by Miller (1983) covers innovativeness, proactiveness and risk taking. Considering Covid-19 MSMEs were forced to engage in ways to survive as a result, firms that adopt entrepreneurial orientation are more likely to adopt the dimension of EO, however, firms that are lower in EO are more traditional (Covin and Slevin 1991). According to Covin and Wales (2019) unidimensional view of entrepreneurial orientation focused on what is common among entrepreneurial firms. This is where researchers used innovativeness, risk-taking and proactiveness as one construct. The interactiveness of these three concepts are likely to impact a firm's performance .

Entrepreneurial orientation (EO) was assessed using 9 items from Dutot & Bergeron (2016). The entrepreneurial orientation data was collected from MSMEs that have been in operation for more than 2 years and therefore would have to be in operation during covid-19 pandemic. The analysis allows for exploration of the dimension of EO. The scale demonstrated a reliability coefficient Cronbach 0.880 which is an indicator that the items are reliable to measure the EO. There were nine (9) items for entrepreneurial orientation with 3 items for innovation, 3 for proactiveness and 3 for risk taking. The items were drawn from past research with accepted

composite reliability and cronbach alpha scores, Innovation composite reliability score was 0.825, Proactiveness 0.846 and risk taking 0.825.

Table 8

Codes for entrepreneurial orientation

Codes -	Type of	No. of
EO -Entrepreneurial Orientation	indicator: Reflective	Indicators: 12

Table 9

Construct and variable of EO

Name of construct and variables	Source of measurement of item
Risk	
<ul style="list-style-type: none"> a. Affirms risk taking b. Take bold steps in meeting objectives c. Employees want to take risks 	
Innovation	
<ul style="list-style-type: none"> a. Innovation about product line is encouraged b. Emphasis on leaders using technology to develop new products c. New product lines in the market 	
Dutot & Bergeron (2016),Covin and Slevin (1989, Lumpkin and Dess (2001)	
Proactiveness	
<ul style="list-style-type: none"> a. Initiate actions to which competitors respond b. Wants to be the first to introduce new products c. New ways of presenting products 	

Variable 3: Firm's Performance (FP) - Dependent variable

The firm performance construct looked mainly at the non-financial performance over areas such as market share, customer retention and improved sales transactions even financial performance such as sales revenue was considered. Seven items were drawn from this research to create the questionnaire items used for this research. The aspect of the firm's performance was adapted from Ahmad et al (2019). MSMEs performance was assessed using 7 items. The composite reliability of the aspect of questions carried out by Ahmad et al (2019) was 0.920, along with Parveen et al 2016 and Cao et al (2018) which states that the items constructed are consistent. The aspect of the MSMEs performance in this study covers sales, customer service and brand/service awareness. A five point likert scale was used drawn from Parven et al (2016) ranging from strongly disagree to strongly agree. The cronbach alpha score that indicates validity had customer relations items with 0.748 which is about the acceptable threshold of 0.7. The reliability test had all scores about 0.8 which suggests that the questionnaire items were reliable and valid and can be used to collect data which should limit the errors. Business performance is the benefits that a business might gain as a result of using social media in terms of both financial and non-financial performance (Delone, & McLean, 2003).

A number of studies were conducted that demonstrated that technology improves a firm's performance (Gera and Gu 2004; Paniagua and Sapena 2014; Hakala and Kohtamaki 2011). According to Parveen et al 2014 social media adoption has impacted positively on business performance. Social media has also contributed to customer-facing activities and shows a positive effect which impacts and sales performance Rodriguez et al (2015). Entrepreneurship scholars have also tried to explain the firm's performance in relation to entrepreneurial orientation (Lumpkin and Dess 2001; Wiklund and Shepherd 2003 Zahra and Garvis 2000). It is

shown in studies that EO aids MSMEs to perform better than competitors and enhance performance (Lumpkin and Dess 2001; Zahra and Gravis 2000)

Table 10

Codes for performance construct

Codes -	Type of indicator:	No. of Indicators:
FP - Firm's Performance	Reflective	7

Table 11

construct and variables of performance

Name of construct and variables	Source of measurement of item
Firm's performance	
Increased sales revenue	Parveen et al 2016; Cao et al 2018; Ahmad et al 2019
Improved sales transaction	
Enhanced customer satisfaction	
Improved Customer retention	
Enhanced Product awareness	
Increased Market share	
Improved Customer engagement	

Instrumentation of Research tool

The accuracy of data collected will always be vital when conducting a research in order to determine the quality of the results, this therefore is impacted by the quality of the instrument used when collecting the data (Saunders et al 2018). A questionnaire is 'a list of printed questions that is completed by or for a respondent to give his/her opinion'(Roopa and Rani 2012). When collecting primary data, this one method of acquiring responses, it helps the

researcher to gather data that can be analysed in a quantitative manner (Roopa and Rani 2012). Questionnaires then to be opinion, behavioural and tribute based as the instrument seeks to determine the feelings from respondents. The behavioral data that can be ascertained through the use of a questionnaire can weather information about past, present and future data about subjects and institutions. The attribute data deals with the characteristics of those participating in the survey (Dillan 2007).

In this research, a closed ended questionnaire was administered online via the survey monkey website. This platform is simple to use and responses were sent directly to the assigned email account for analysis. The survey contained matrix and closed ended questions with six (6) separate parts asking questions directly related to the construct of the research. According to Nunnally (1978) a minimum of three items should be used in order to maintain reliability. (*See appendix A- Survey Instrument*). The survey contained 10 closed ended questions in section one (1), nine (9) matrix questions for entrepreneurial orientation conduction, 12 matrix questions for technology, organization and environments construct and 7 matrix questions for firm's performance.

Questions 1 - 10 is about demographic aspects of age, gender, position and basic information about how Covid-19 affected the business.

Question 11- This aspect is a likert scale with 5-points that cover entrepreneurial orientation (EO). The section has 9 items covering the dimensions of EO. These items were adopted from Dutot & Bergeron (2016) with proven reliability and validity measures.

Question 12 - The section covers social media adoption but specifically focused on technology. The section was divided into three (3) sub-areas and has a total of 12 items. 4 items for relative

advantage, 4 for compatibility and 4 for complexity. These items were taken from Fan, M., et al (2021).

Question 13- 12 items were included in this area to cover the aspect of the environment as a measure of social media adoption. There are 4 questions used to collect data on each sub-topic. The three areas are government support, competitive pressure and environmental uncertainty.

Question 14 - this aspect of the research instrument focused on organization as an antecedent for social media adoption. The section has 10 items covering top management support, employees readiness and size of the organization.

Question 15 - This section of the research has 7 items covering three areas of performance and was adopted from Ahmad et al 2019. The three (3) areas are sales volume, customer service and brand awareness.

A cover letter was sent with each survey with the name of the university, the programme of study, doctoral candidate and supervisors names with contact information. Additionally, the cover letter gave instructions as to the purpose of the research and how to complete the survey. (The gatekeeper letter see appendix). The respondents to the survey were owners and senior managers who possessed the required information about the full operations of the micro small and medium enterprise, as the survey desire was to collect data about the strategic plans of the business in terms of the social media adoption strategies and entrepreneurial orientation thrust employed by the business during the covid-19 pandemic. Therefore someone at the top of the hierarchy was more desirable as they would have understood the plans for social media adoption.

Pre-test Pilot study, reliability and validity

In order to validate the questionnaire a pre-test and pilot test were attempted to minimize inconsistency and error in the data. However, there were limitations due to time constraints and the sample population possessed unique criteria that may be difficult to obtain which was a drawback for the pilot test. The researcher however, used questionnaire instruments that have met the required standard of reliability and validity. A pre-test was done on the instrument to look at the face validity which deals with the appearances of the instrument itself if it portrays what the researcher intended on measuring (Johnson 2013). The content validity looks at 'sampling adequacy of items for the construct that is measured (Polit and beck 2004;2006). The rating scale criteria were adopted from Good and Scates 1972 (see appendix). The pilot study however, is to aid participants that ambiguity of the questions can be minimised (Creswell 2014).

The pre-test was conducted using eight (8) experts who are business practitioners and university lecturers/professors and language specialists. A cover letter and the adapted forms were sent to these individuals (*See appendix*). The forms were then recollected and calculations done to determine the content validity index according to Polit and Beck (2006). The calculation gave an Item Content validity Index (I-CVI) as 0.88. This met the standard of Davis (1992) who recommended a minimum score of .80. However, Lynn (1986) recommends 0.78 for the I-CVI but an universal score or score content valid index average as 0.90. This instrument returned a score of 0.72 and proportion relevance as 0.83. This could be as some experts were not all from the business administration field. The I-CVI however takes precedence. It was also recommended to reduce the number of questions for similar categories that would not affect the validity of the items to prevent it being too long.

The research instruments used had a few modifications for some items to best suit the context of the research as this research has a slight difference of researching MSMEs and not just SMEs. As a result a pilot-test was done to re-establish the validity and reliability of the instrument. Pilot studies safeguard against errors and ambiguity in testing and conducting surveys and increase reliability and validity of the testing instrument (Creswell 2014; Dillman 2014). According to Seidman (2006) a pilot test helps to ensure that questions are logical, understandable and clear to the participants. The data for the pilot study was collected via online survey monkey platform. A sample of 15 participants were used and these participants were individuals chosen with the required criteria of managers and owners of businesses not necessarily MSMEs or neither were these people from the sample geographical location, as the sample is relatively small with unique criteria. There are researchers who made no recommendations as to the sample number such as Burns & Grove (2005); Polit & Beck (2004). However, others have made recommendations of obtaining approximately 10 participants (Nieswiadomy 2002) or 10% of the actual population size to be used in the study (Lackey & Wingate 1998). These studies were used as a guide for the researcher. Due to cost, time and difficulty of reaching owners and managers the researcher used this method which is also supported by Hulley et al (2001).

Two important elements that researchers are to be cognizant of when carrying out research are reliability and validity (Saunders et al 2012). This deals with looking at the data consistency throughout a number of studies within a similar or related field done by various researchers. As a result, ensuring that the study is replicable and transparent is essential when collecting and processing data. Research validity on the other hand, as the approach used in data collection and the measurement of accuracy to verify intended results (Saunders et al 2012). The

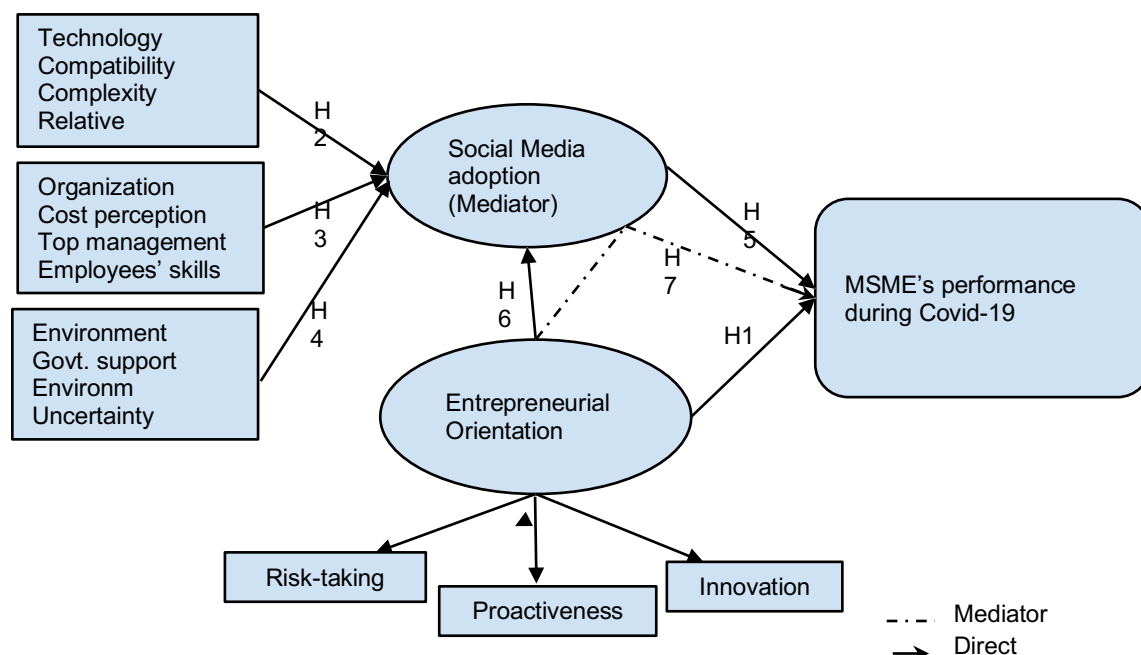
questionnaire used in this study was developed by past researchers and adopted which was sent to the participants.

According to Duignan (2016) Cronbach's alpha is a common way of examining reliability of data, the research value should be above 70%. The Cronbach alpha should be above 70% therefore if the score is between 70%-80% it suggests that the internal consistency is acceptable. On the other hand, if it's below 70% then the research may have issues and more than likely should be redesigned. The table below shows the Cronbach reliability as .842 and number of items as five that covered Entrepreneurial orientation, technology, environment, organization and firms performance. The internal consistency shows that the research instrument used was reliable. See appendix *Reliability Test*

The relationship between independent and dependent variables was studied by assessing the impact of two independent variables namely social media adoption (Dudley 2021) and entrepreneurial orientation (Covin and Slevin 1989), on the dependent variable firm's performance during covid 19. The questionnaire designed for this study investigated five latent variables which were measured. These variables were developed after extensive literature review and formed the foundation for the conceptual framework utilized in this research. The study investigated how social media adoption and entrepreneurial orientation impacted MSMEs performance during the COVID 19 pandemic.

Figure 8

Construct of variables in the conceptual framework



Definition Variables and Operationalization

Key terms

Several key terms have been used in the literature review to give a better understanding of the information presented. Here are a few of the terms:

Entrepreneurial Orientation: The strategies employed by firms to be innovative, to be proactive and to be cognizant of the risk taking decision and activities (Presutti & Odorici 2019; Rauch et al 2009).

Social Media/Social networks: These are social structures composed of individuals and organizations, which engage with each other through specific activities in virtual networks (Hansen, Dunne & Shneiderman 2010).

Micro , Small and Medium Enterprises: Businesses are classified in Jamaica as MSMEs if total annual sales is between JM\$10 million and JM\$425 million and if they employ between 5 to 50 workers (STATIN (2017).

COVID-19: An infectious disease caused by the SARS-CoV-2 virus (WHO 2020)

Performance: The capacity or functions done in the organization to achieve goals and the use of resources efficiently and effectively (Westover (2008).

Innovativeness: ‘ the process of creating and introducing new products to the market ahead of the competition (Zahara & Dass 1993).

Risk taking: ‘The degree to which managers are willing to make large and risky resource commitments, having a reasonable chance of costly failure (Miller and Friesen 1978).

Proactiveness: ‘seeking opportunity, forward looking perspective involving the introduction of new products or services ahead of the competition and acting in anticipation of future demand to create change and shape the environment’ (Lumpkin and Dess 1996, p.146).

Technology: ‘The technology itself that includes functionality, complexity, compatibility with existing systems’ (Tornatzky and Fleishcher 1990 p. 33).

Organization: ‘Internal context in which technology is used, including organization’s size, structure, culture and resources’ (Tornatzky and Fleishcher 1990 p. 33)

Environment: ‘the external context in which organization operates, including market conditions, regulatory requirements, social and cultural norms’ (Tornatzky and Fleishcher 1990 p. 33)

Study Procedures and Ethical Assurances

The study went through a procedure where the Research Ethics Application Form (REAF) was completed and submitted to the Unicaf Research Ethics Committee (UREC), where approval was granted for data collection and the study to continue. The nature of the study looked at how Social media adoption and entrepreneurial orientation were used by MSMEs in central Jamaica during the Covid-19 pandemic involved minimal risk to participants. The first step in the process was to formulate a research question that has relevance, novel, interesting, feasible and ethical. The main area of research is based on a good research question that outlines what is to be investigated (Alvesson and Sandberg 2011). The research question is also essential as it helps with the design of the type of study to be undertaken. Therefore the research seeks to determine the impact of social media adoption and entrepreneurial orientation on MSMEs in central Jamaica during covid 19 and how and to what extent performance was impacted. The research then proceeded to conduct a literature review by using scholastic materials and peer review journals to develop a better understanding of the phenomenon and the research gaps that could inform this study should be carried out. To perform a review of literature helps a researcher to synthesize past finds within a discipline and then provide the opportunities for one to take on future research (Synder 2019). From the literature pertaining to social media and entrepreneurial orientation numerous papers look at social media and its impact to performance and entrepreneurial orientation as a mediator and moderator variable but very few have studied entrepreneurial orientation being mediated by social media adoption. As a result this is one of the novelty of the research found through the activity of conducting a literature review.

The next step in the study procedure was to formulate the research hypothesis to which the research was used to predict and prove. According to Dennis (2012) a hypothesis is a

prediction of the researcher's expectation about the relationship between or among variables. This was helpful if logical solutions and conclusions were to be drawn from this study. Seven (7) hypotheses were created for this study with null and alternative hypotheses. The null hypothesis states that there is no relationship whereas the alternative claims that there is relationship (Dennis 2012). The research design was then developed and this research used quantitative correlational research. The sample was also calculated and selected and as mentioned above, data was collected from MSMEs covering all industries. Only managers and owners and senior employees were approached to complete an online survey. The MSMEs spanned over three parishes and must have at least two years of operation during the time of the pandemic. The data collection lasted from more than six (6) months Starting in June 2023, as it was difficult to convince the owners and managers to complete the survey as the culture of Jamaica shows that business owners are sometimes reluctant to share information about their business operations.

An email was sent to the three chambers of commerce for each parish where permission was sought to acquire a contact list of all registered businesses in the areas. Snowballing was also used to get owners and managers to participate in the data collection. The cover letter prepared by UNICAF university that was approved was sent with the survey online to inform participants of the study. Follow-up emails were sent to businesses that did not answer the survey in order to acquire the required number of participants based on the sample population calculated as outlined above. The data collected will be organized in a format that can be inputted in the Partial Least Square Structural Equation Model (PLS SEM) 4.0 software. After collection of the data the next step was to perform data screening and diagnostic testing to ensure that the data was suitable for statistical analysis. The data for this research underwent two stages as recommended by Hair et al (2006). The first step was data screening. This was used to detect

missing data where the information collected using survey-monkey was coded using numbers. The data once submitted by participants cannot be resubmitted which also aids reliability. The analysis procedure in this study will re-produce consistent findings if performed by other researchers. All the information for the research is available and descriptions of participants are given to show that respondents are in the position to adequately answer the research questions.

Analysis of data was done using the PLS-SEM 4.0 software which involved the goals of predicting and explaining the outcomes of sample metrics (Hair et al 2022). The model is also used when the sample size is relatively small. The hypotheses were then tested to determine if the null hypothesis should be accepted or rejected. The testing is statistical means of understanding why there was an occurrence or not. In this study it was to determine how if and to what extent social media and entrepreneurial orientation impacts MSMEs performance in central Jamaica given the turbulent environment of the covid-19 pandemic. The results of the analysis were presented and interpretations made about the findings that lead to discussion of each research question. Implications were then drawn from the study and recommendations made for future study and what government and other stakeholders can do in crisis situations.

Ethical Assurances

The researcher believes that research ethics is vital to enhance the quality of the study. The Academy of Management (AOM) has outlined the guiding principles of professional standards in research. The core principles cover integrity, responsibility and respect for participants rights and dignity, anonymity and confidentiality (Bell and Bryman 2007). The UNICAF university also required doctoral candidates to apply to the Unicaf Research Ethic Council (UREC) which was done and approval granted to conduct the study. It is therefore

important that researchers go beyond just the informed consent to the point of privacy confidentiality and anonymity. Therefore, the concept of informed consent, privacy, anonymity and confidentiality is to protect the participants in order for the researcher to conduct the study in an atmosphere of trust.

Informed consent. Informed consent was impliedly acknowledged when the participants voluntarily accepted to complete the survey. Online surveys have become a more efficient and useful tool when conducting research that has been proven to yield as high as 34- 36% percent response rate more than the normal surveys (Daikeler et al 2021). Pre-contacts with potential participants for an online survey for a research provides a higher rate of responses which could be supported by the personal interaction with the candidate (Burgard et al 2020; Cook et al 2000). With a tech savvy society, online surveys being carried on platforms such as survey-monkey which was used in this study can be traced back to the Internet Protocol (IP) address from where the document was sent. As recommended by Barchard and Williams (2008); Benfield & Szlemko (2006), for online surveys the IP addresses should be removed from the dataset before saving. As a result, the IP addresses were removed for this data set to uphold anonymity. Additionally, the participants were informed of when data can be withdrawn if they wish not to continue with the survey and were informed of the purpose of the study sent with the surveys using the gatekeeper letter recommended by the university. (See appendix)

The participants were asked to agree to the survey before completing the online survey, as data collected subsequent to accepting and agreeing to participate in the survey is not permissible to be used in the study (William 2023). The participants were also free from undue risk throughout the entire process of the research as participants were given the freedom to participate or reject the survey. The MSMEs involved were informed that data collected will be

analyzed and shared on an aggregate basis therefore, individual's companies will not be highlighted. As a result, anonymity was observed as owners and managers were not expected to submit the name of business but solely to identify the industry in which the business falls. The participants were asked to print and sign the informed consent form and to resend via email to the researcher and the researcher's proxy. This was to minimize participants just agreeing verbally but failing to submit the form as online researchers sometimes encounter problems with genuinely being able to decipher who is answering the survey and if the participant truly understands the survey.

It is important to highlight that the researcher has been a business practitioner and educator for a number of years. The researcher has taught entrepreneurship to young aspiring business owners that give understanding of how the MSMEs works to an extent. As an outsider conducting the research I was able to maintain integrity in data collection through the use of online surveys which were sent directly to participants. This minimized the bias of data collection and analysis as responses were directed to the platform to be cleaned and prepared for analysis which is free from bias and the researcher's influence. It is the duty of the researcher to bring together the data collected and find strategies to check and recheck data collected in ensuring that the findings of the study are from the viewpoint of the participants and not the opinion of the researcher (Lincoln and Guba 1985). As a result the study was driven by the participants and not the researcher to avoid bias.

Confidentiality. The participants of this research who were owners and senior managers of MSMEs were first contacted as most of these participants were selected due to snowballing and the nature of the study. For a higher response rate privacy and anonymity and confidentiality become paramount for ethical consideration especially when the survey is online. Anonymity is

about not disclosing the identity of the business, owners or managers whereas confidentiality is not presenting the data or disclosing the information, opinion or data garnered during the research (Clark 2006). The researcher ensured that this information was communicated to the participants and the IP addresses were stripped to ensure the protection of the participants identity. The data collected was stored and used for analysis then subscription was determined for survey monkey which meant the data was erased. Only the researcher had access to the data as all responses were sent directly to the researcher's online survey-monkey account.

Data collection and Analysis Method

In order to prove or disprove hypotheses, the accuracy of the data collected should be a high level of integrity as the quality of the research is dependent on the quality of the data. Data for the study was collected using an online questionnaire that was designed covering all the constructs of the variables of the conceptual framework. According to Wright (2005) online surveys are advantageous to the value it possesses to reach a unique population which can be achieved at a low cost. As a result, this was beneficial in this study as data needed to be collected from MSMEs owners and managers who have a required criteria list to be suitable for the sample. This was also helpful in a study with a non-probabilistic sample where purposive sampling was necessary to be carried out in order to meet the requirements of the research.

Pre-contact was made with most of the participants to inform them of the survey as most respondents were reached through snowballing purposive sampling method. The instrument was then sent to an email provided with a cover letter (gatekeeper letter) provided by the institution that introduced the purpose of the research. An online platform was used (survey monkey) which has the capability of automatically sending the responses to the researcher's email. The survey contained closed ended questions and matrix questions for the participants to click based on the

choice of the answers. Each completed survey contained an ip address which was deleted to maintain anonymity and confidentiality. The survey results were then extracted from the platform in excel and CSV formats which was then transferred to the SmartPLS software for subsequent analysis. The data collected was examined, as it was primary data the researcher then looked at the missing data situation or answers that showed respondents were inconsistent or simply selected answers without reading the questions properly. The data didn't possess missing information as the questions had compulsory lock on the survey that participants were not tempted to skip questions.

Quantitative Data Analysis Method

Data analysis was carried out using quantitative analysis as outlined by Saunders et al (2009). Data was collected via survey monkey online platform, using the snowballing sample method as mentioned before, after which was downloaded in Microsoft excel software and went through a data clean up process. The data was then exported to the SMARTPLS software after it had been prepared and coded. The data collected will be coded using numerical value which is ideal for analysis. Therefore, the coding will be done accordingly males=1, females = 2, Strongly degree = 1, disagree = 2, Neutral = 3 Agree = 4, Strongly agree = 5. The nominal or categorical data represents gender, position in the company, type of industry of the MSME. The continuous data represents the performance of the firms. The data to be collected using the survey will cover the areas of social media adoption, entrepreneurial orientation and firm performance. As stated, the survey was adopted from previous researchers who conducted similar research in other areas.

The data was imported to the SMARTPLS software after which the option to reconstruct the conceptual framework of the study was done using the drag and drop user assess button to recreated the model and to run the path coefficient analysis. The software conducted operations

to assess the inner and outer assessment models. The measurement model looked at the reliability and validity of the model through the use of the Cronbach alpha and composite reliability which should be about 0.7 to be accepted as valid and reliable for use. Additionally, the reflective construct looks at convergent validity which should be beyond 0.5 and discriminant validity. The formative construct within the measurement model of TOE to social media was also tested to determine the multicollinearity which should be below 5 to indicate that there are no crossing of the construct in terms of nearest of what each should be measuring.

The structural model assessment validation was conducted to determine the path coefficient and the strength of the relation between independent and dependent variables. To run this process a 5000 bootstrapping was done to determine the significance of the relationship among the constructs. The r-square, f-square and q-square analysis was done to identify the explanatory power of firm's performance and its relation to social media adoption and entrepreneurial orientation. Mediation analysis was also conducted using the software to determine if social media has any mediating effect on entrepreneurial orientation. The results of the measurement and structural models were presented and the hypotheses testing done to determine the significance of relationships and what the researcher wanted to accomplish through the research.

The correlation coefficient will be used to determine the relationship between the variables in the research. Correlation coefficients describe the descriptive measure of relationships between scores (Jones and Kottler 2006). In order to understand the relationship the identification of scores are assigned. The analysis using the PLS SEM will determine the measures of the hypotheses. It is essential and important to understand the relationship between Social media adaptation and Entrepreneurial orientation in relation to MSMEs performance during the covid 19 period. According to Salkind (2015) correlation helps with identifying

relationships among variables, whether negative or positive. Relationships can range from -1.00 to 1.00, If the correlation is from -1 or 1 then it represents perfect negative and perfect positive relationships. However, if zero (0) indicates that there is no relationship between the variables. Therefore, a correlation indicates the direction and the strength of the association between variables (Holton, E. F., & Burnett, M. F. 2005). Hair et al (2015) postulate that the two main methods of quantitative analysis follow either the descriptive method or inferential method. Descriptive deals more with standard deviation, frequency, range ,mode, median, mean and variance whereas the inferential covers regression analysis, and more in depth statistical analysis.

Validity and Reliability

Validity deals with a scale measurement that is designed to measure what the construct or component is to assess (Litwin 1995). It shows that the measure being used to test the variable is performing the task. The researcher would endeavour to have a validity measurement that is high to the targeted measurement (Sekaran 2006). The test should only be considered valid if it is measuring the underpinning concepts that results in observable changes in the outcome of a variable (Borsboom 2005). One area of validity that researchers should take into consideration is content validity that looks at whether or not the test is representative of what it aims to measure, therefore the instrument and content should appear to measure what it is to be measured (DeVellis 2017). Criterion validity on the other hand, looks at the alignment of traits that are observable to the scale that is to be used (Lee 2018).

Reliability deals with the instrument used in collecting data such as a survey that should be able to be reproduced and consistently yield similar results (Harrison and Oakland 2003). In a reliability test the lower the error the more reliable the instrument. Hence, the reason for a

researcher to determine the validity is to aid with the variability that may exist as a result of the differences in the construct being measured. Cronbach alpha is known as the statistical measure for validity even though there are drawbacks such as issues to deal with the length of the survey or and similar items connected and characteristics of the sample (Agbo 2010). The range of coefficient is less than 0.6 then it is considered to be poor, 0.6 to 0.799 is an acceptable score and about 1 is good reliability (Sekaran 2006). It is therefore essential for the research to establish validity and reliability in order to correctly test the hypotheses and answer the research questions.

Confirmatory Tetrad Analysis (CTA)

Another crucial step in the analytical methodology of the research is to conduct a confirmatory tetrad analysis. This step helps with clarifying the reflective and formative construct of technology, organization and environment contexts. According to Bollen and Ting (2000) the confirmatory tetrad analysis (CTA) - partial least square is to examine the reflective and formative nature of TOE on social media adoption (Hair et al 2016; Bollen and Ting 2000). The aim of the CTA-PLS is to aid the statistical evaluation of any cause and effect relationship that may exist between latent variables and to statistically indicate the measurement of indicators in the model (Hair et al 2007). The CTA will support the validity of the construct of the research conceptual framework as the correct measurement model would be in the correct construct. In this study entrepreneurial orientation as a construct has reflective indicators of innovation, proactiveness and risk taking which needs to be tested to ensure that they are reflective and

construct to construct of EO. Therefore, a tetrad is the difference between a pair of covariance to another and these should be zero (0) to indicate that a construct is zero (Hair et al 2018). This is essential in the data analysis process as the hypotheses of this study were created from the conceptual framework and if the variables are not measured as the correct construct then the hypothesis finds will be flawed.

Partial Least Square - Structural Equation Modelling (PLS SEM)

Structural equation modelling has been used in social sciences research as it provides a statistical approach that is multivariate when trying to determine relationships about latent variables that are challenging if they were to be observed (Willaby et al 2015). Scholars today now have two SEM that can analyse data, the Covariance-based SEM and the Partial least square SEM. Whereas the CB-SEM has been widely used for decades the PLS-SEM has now gained popularity as the choice model for numerous research (Hair et al 2022; Ringle et al 2020). One difference between the two is that CB-SEM is more about covariance matrix trying to determine relationships whereas PLS SEM is more about explaining the variability among latent (endogenous) constructs. The table below shows the reasons for choosing CB SEM or PLS SEM

Table 12

Comparison between CB and PLS SEM

Source adapted from Hair et al (2021)

Criteria	CB-SEM	PLS -SEM
Research Objective	Parameter oriented Focus is on understanding relations. Assess significance of relationships	Prediction Oriented The goal is to apply findings to real world scenarios or to predict future trends

Approach	Covariance Shared variance between variance	Variance Variability of single variable
Implications	Optimal for prediction	Optimal for parameter estimation
Measurement model specification	Where errors may required additional specification	Where formative measures are a part of the structural model.
Sample Size	This is based on power analysis	Small sample size minimum 30
Model Complexity	The level moves between small and moderate	This deals with larger more complex models

The PLS - SEM model enables the researcher to deal with more complex constructs possessing numerous variables and indicators and structural paths without assigning assumptions on data due to model limitations. It gives more precise results and has a causal predictive nature that used the statistical model to aid researchers in understanding causal explanations and to make predictions which is very useful for managerial researchers so that implications can be made about the real world and not just about testing the theory. (Hair et al 2019; Sarstedt et al 2017). The PLS works with a small sample size which is ideal for this research considering the nature of the study that looks only at the registered MSMEs in central Jamaica. The model additionally aids the researchers to delve into analysis of relationship between variables and not just the use of a regression model. Therefore, the PLS SEM possessed the capability of explaining the errors of latent variables through its statistical power and helped the researcher to be able to develop a more robust model for a research (Legate et al 2021).

Considering the research aim and objectives as outline in chapter 1, this study seeks to look at the social media adoption and entrepreneurial orientation impact on MSMEs in central Jamaica during the covid 19, and wants to understand the correlation of the impact but more to

be able to predict so that in the future if there is another crisis then business will possess real life and practical measures that can be implemented.

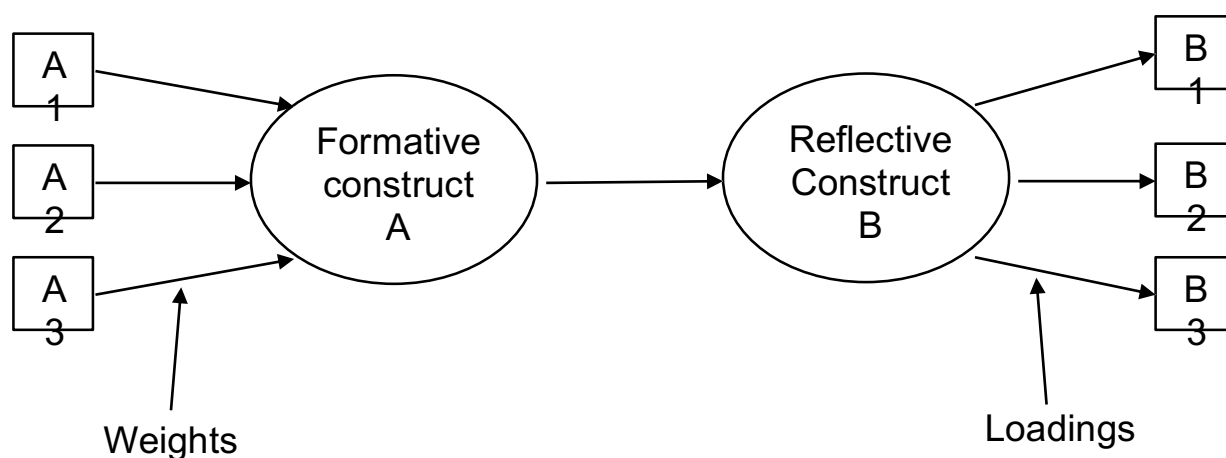
There are two steps to follow when a researcher decides to use the PLS-SEM, the measurement or outer model (Exogenous and the structural or inner model (endogenous). In the first process, reliability and validity checks will be carried out to determine the acceptable relationship between the indicators that are used to form and/or measure the construct. The second procedure is to check the relation between constructs. In this study for example social media adoption with firms performance.

PLS-SEM Measurement Model Assessment

The measurement looks at the reflective and formative measures, this is where the latent constructs are normally assigned. This is necessary in data analysis as it helps the researcher to test hypotheses and answer the research questions. In the measurement model indicators are regarded as reflective modes that are connected from a construct that shows casualty. In this study indicators of performance such as customer engagement, MSMEs visibility, sales revenue are known as reflective indicators as MSMEs performance are seen through this avenue to determine how the firm is performing. The opposite is true where the formative construct is where the indicators impact the construct. For this study one formative construct is social media adoption where the TOE framework determines how the construct is measured. The figure below shows the difference in construct.

Figure 8

Formative and reflective constructs model



Latent variables

The table below shows the measure of the reflective model and the requirements to be met in carrying out analysis of the data.

Table 13

Standards for reflective measurement

Criterion	Description /Thresholds	Sources
Composite reliability (rho_c)	Internal consistency tells how the indicators represent the construct $\text{rho_c} \geq 0.7$	Hair et al (2017)
Factor loadings	'Indicator reliability of external loadings ≥ 0.7	Hulland (1999)
Validity: Convergence	The degree of share variant among indicators of a construct $\text{AVE} > 0.50$ '	Ramajah et al 2018; Hair et al 2017
Validity: Discriminant Fornell-larcker criterion	There is no correlation between measures. AVE of a construct should be above the square of another construct	Fornell and Larcker (1981)
Cross-loadings	Individual indicators loading higher on construct it should be measuring	Chin (1999)

Heterotrait-monotrait ratio of correlations (HTMT)	'A multitrait multimethod matrix to measure discriminant validity ≥ 0.85 but not above .90'	Henseler et al (2015)
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The formative construct model seeks to establish the redundancy through the use of the validity that covers convergence, collinearity which is done through the variance inflation factors (VIF) and to determine the importance of formative indicators through bootstrapping. As a result this construct should be done by accessing the statistical significance and weighs fo the indicators (Hair et al 2017). In the analysis of data for this study, three criteria will be used to determine the outer model values of this formative construct.. The table below indicates the description and threshold in order for the research to be able to answer the research questions and test the hypothesis.

Table 14

Standard for outer model measurement assessments

Criterion	Description /Thresholds	Sources
Indicator reliability	Loading of formative construct, if the loadings are below .70 they should be removed. ≥ 0.7	Hair et al (2016); Diamantopoulos and Winklhofer (2001)
Construct validity	Measures the weigh of each indicator and its contribution to the latent variable	Peter et al (2007)

Multicollinearity is desirable in the reflective indicators but for formative indicators this is not the case as it creates redundancy if more than one formative constructs are correlated. If entrepreneurial orientation and social media adoption has high multicollinearity then both will be producing the same results and findings in the study that does not have value as the researcher wants to be able to discuss each construct and the direct impact to the research questions and hypotheses.

PLS SEM structural model Assessment

Data analysis method continues with the second step using the SMARTPLS software. As a result, the structural model indicates how latent variables are connected to each other (Hair et al 2020). These steps require that bootstrapping procedure to be done as a safeguard against errors as the data is non parametric and a large number of samples could be used and to avoid bias and skewness this procedure is necessary (Wong 2013). It is therefore important the researcher evaluate that the multicollinearity is below 5, assess the the path coefficient to determine that predicted paths and hypothesis relations are significant with p-value less than 0.05, evaluate the the predictive validity of R^2 (R-square)for outer variables and also assess the out-of-sample predictive validity using the PLSpredict. The table below indicates the criteria of structural model analysis.

Table 15

Standard structural model analysis

Criteria	Description /Thresholds	Sources
Multicollinearity	Utilized the variance	Hair et al (2017)

	inflation factor VIF to establish the correlation between the formative indicators. $VIF < 0.5$, means there is no collinearity	
R^2 square Latent variable	Tells how much change in the dependent/ endogenous construct is as a result of exogenous/independent variables. $R^2 \geq 0.67$ –strong $R^2 \geq 0.33$ moderate $R^2 \geq 0.19$ weak	Chris (1998)
Path Coefficient β	Indicates the connection between two or more constructs. It deals with strength and significance. Closer to 1 is strong in relation and significance of relationship	Hair et al (2016)
f^2 Effect size	This is how much variance is in the endogenous variable that was caused by the exogenous/independent variable. $f^2 = 0.35$ substantial effect on $f^2 = 0.15$ Medium effect $f^2 = 0.02$ Small effect	Cohen (1988); Hair et al (2020)
Q^2 Predictive relevance	Tells how well the model can predict new observations. $Q^2 > 0$ Indicates predictive relevance to the endogenous construct $Q^2 < 0$ no predictive relevance	Ringle & Avkiran (2018)
Variance Accounted For (VAF)	‘Tells the effect of a mediation analysis on the endogenous construct caused by the exogenous variable. $VAF < 20$ no mediation. $VAF 20 - 80\%$ partial mediation $VAF \geq 80$ full mediation’	Hair et al 2014

Summary

The section on methodology provided a detailed overview of the procedures adopted for this research that covers the philosophical and practical dimension of data collection. It was decided that quantitative research would be the ideal model for this research in order to answer the research questions and test the hypothesis. A conceptual framework is proposed that outlines the various constructs and gives an overview of how the research will answer the research questions. An overview of the population and population sample was given and how data be analyzed. The research design is given with details as to the rationale for choosing such design. Additionally, the hypotheses were developed and detailed information given about the measurements and construct of all variables. Information is provided as to the instrument of data collection and the ethical assurances and study procedures that outlines information about informed consent procedures and confidentiality issues and how this was dealt with. A section on quantitative data analysis method was given that outlines how the data will be analysed using the SMARTPLS 4.0 software. The reliability and credibility of the instrument used to collect data was adapted from other research. The PLS SEM model was explained in this chapter and findings and interpretation will be in the next chapter.

CHAPTER 4: FINDINGS AND QUANTITATIVE ANALYSIS

Introduction

The data of this study was examined using the (PLS-SEM) which is the partial least square-structural Equation Model (Ringle et al 2015), as this has become one of the widely used analysis platforms in social sciences and for business management research. The PLS-SEM is known for casual-predictive analysis where data was analyzed and interpreted through the use of the SMARTPLS version 3 software, which supported the establishment of the construct validity and reliability. The chapter further gives information on the measures and structure of the conceptual framework and model along with the demographic data about the participants. Six hypotheses were proposed which were tested and the relationship predictors on outcome were determined. PLS modeling has become popular among practitioners and scientists. The path algorithm permits the unrestricted calculation of cause and effect relationship that uses both the reflective model and the formative measurement model (Diamantopoulos & Winklhofer 2001).

This section's analysis was separated into three main categories. To help determine the category of MSMEs, the number of employees in each firm was provided after the demographic data pertaining to gender, age, and age was provided. Along with the number of years of use and the budget for social media, information on the industry type, the amount of social media usage,

and the sorts of platforms are also provided. In order to evaluate the measurement's validity and reliability, the second section of the chapter will use the PLS-SEM. This will include factors loading, which includes average variance extracted (AVE), reliability tests that include Cronbach's alpha, composite reliability, and discriminant validity. The third and final section will evaluate the structural model that entails the collinearity validity, variance inflation factor (VIF), statistical significance (β), coefficient of determination, R-square, effect size f^2 and q-square (Q

Demographic profile

The profile composition of the participants in this research can be seen in table 16. The majority of the population was made up of 61.7 % females and 37.7 males. The ages of the respondents show that 5.8% were between the ages of 18-24, 31.2% represented respondents between 25-34%, between the ages of 35-44 represented 25.3% of the participants. 22.1% represented ages 45-54 and 14.2 % represented respondents about 55 years old. This shows that most of the participants of entrepreneurship in central Jamaica who participated in the study were 25 to 44 years old. To the nature of the research owners of businesses were the main target but managers or senior staff having the knowledge about the business were included. From the population sample 52.6% were owners, 21.4% were managers with seniority roles and supervisors accounted for 11.7%. The number of employees signifies the size of the establishments. 40.9% represented businesses with 1 to 5 employees which are considered micro enterprises. MSMEs with employees between 6 -20 accounted for 26.6 percent. Firms with the number of employees between 21-50 represented the other 31.8%.

Table 16*Demographic data*

Construct	Characteristics	Frequency	Percent
Sex/Gender	Female	95	61.7
	Male	58	37.7
Age	18-24	9	5.8
	25-34	48	31.2
	35-44	39	25.3
	45-54	34	22.1
	55-64	17	11.0
	65+	5	3.2
	Response	1	.6
Position	Under 18	1	.6
	Employee with seniority role	33	21.4
	Manager	21	13.6
	Owner	81	52.6
	Response	1	.6
	Supervisor	18	11.7
Total		154	100.0

As it relates to the industry these businesses operate in, it was observed that the largest number of businesses were food and beverages that represented 20.1% of the sample population. 1% was the smallest percentage which represented the utilities, energy industry and also the airlines industry. Construction industry was also significant at 9.75% of the sample followed by entertainment and leisure with 9.1%. Agricultural industry represented 7.8% whereas advertising and marketing 7.1%. Government services business only had 1.3% represented with retail ad consumables 4.5%.

Social media utilization was asked in the survey to the participants. Basic and moderate usage of social media platforms in their businesses were the highest with 29.2% for each respectively. Menial use represented 26% and extensive usage was 14.9%. In terms of social media platforms used within the various establishments, whatsapp was heavily used with 35.7%, Instagram was also employed by a number of firms with 16.9%. Google+ is being used by a smaller percentage of business which is 3.2%, linkedin 1.8%, Twitter 1.2%, youtube 2.6% and other platforms representing 3.2%. Businesses were asked to share how much is budgeted for social media usage. 68.2% shared that they used 0-25% of their budget on social media, 24.7% used 26 - 50% and only 6.5% used above 50% of their budget on social media platforms. *See Table 17.*

Table 17

Characteristics of MSMEs

Construct	Characteristics	Frequency	Percent
No. Of employees	1 to 5	63	40.9
	6 to 20	41	26.6

Industry	21 to 50	49	31.8
	Advertising	11	7.1
	Agricultural	12	7.8
	Aviation	1	0.6
	Automobile	10	6.5
	Business development	5	3.2
	Construction	15	9.7
	Educational training	11	7.1
	Entertainment and leisure	14	9.1
	Financial services	5	3.2
	Food and Beverages	31	20.1
	Government	2	1.3
	Health & Fitness	3	1.9
	Health services and care	7	4.5
	Currently not working	1	0.6
	Insurance services	1	0.6
	Not-for Profit	2	1.3
	I Prefer not to answer	6	3.9
	Real-estate	3	1.9
	Response	1	0.6
	Retail & Consumer Durables	7	4.5
	Technology and telecommunications	4	2.6

	Transportation & Delivery	1	0.6
	Utilities, Energy, and Extraction	1	0.6
			29.2
Social media utilization	Basic	45	
	Extensive	23	14.9
	Minimal	40	26
	Moderate	45	29.2
			0.6
	Response	1	
Social media platform	Facebook	53	34.4
	Google+	5	3.2
	Instagram	26	16.9
	LinkedIn	3	1.9
	Other	5	3.2
	Response	1	0.6
	Twitter	2	1.3
	Whatsapp	55	35.7
			2.6
	Youtube	4	
No of years of social media usage	0-5	52	33.8
	6 to 10	51	33.1
	11 to 15	27	17.5
	16 and above	23	14.9

			0.6
	Response	1	
Budget	0- 25%	105	68.2
	26 - 50 %	38	24.7
	Above 50%	10	6.5
			0.6
	Response	1	

Descriptive data and normality test

The descriptive analysis helps to showcase how participants responded to the survey questions. The four indicators were found by adding all the responses and then dividing by the number of participants of 154. The median then gives the middle value in how the responses were sequenced for smallest to greatest. Minimum and maximum look at the smallest and biggest values. Standard deviation deals with the difference from the mean of a data set, the highest value in the data was 1 and the lowest 0.625 (Aburumman et al 20222).

Normality Test. The test of normality for the data that was collected was done using the kurtosis and skewness test in PLS SEM. The aim is to confirm that the data is of normal distribution; if the values for both fall between negative 3 and positive 3 then it proves normality of data. In this study the lowest value of skewness is -1.409 to highest of negative 0.494 which confirms normality and 2.356 to -0.228, this only measured the constructs of technology, organization and environment (TOE), entrepreneurial orientation, firm's performance and social media adoption Aburumman et al 2022). See table 18

Table 18*Descriptive analysis and normality test*

Construct	Mean	Median	Observed min	Observed max	Standard deviation	Excess kurtosis	Skewness
Environment	0.000	0.364	1.000	5.008	1.000	1.634	-0.984
Entrep Orienta	0.000	-0.167	1.000	3.000	1.000	1.558	-0.860
EOP1	4.039	4.000	1.000	5.000	0.805	1.787	-0.977
EOP2	4.117	4.000	1.000	5.000	0.897	2.176	-1.269
EOR2	4.078	4.000	1.000	5.000	0.834	3.433	-1.438
EOR3	4.175	4.000	1.000	5.000	0.799	3.557	-1.409
Firm's Perf	0.000	-0.029	3.000	5.000	0.629	-0.228	-0.051
FPBA1	4.149	4.000	2.000	5.000	0.728	0.029	-0.545
FPBA2	4.130	4.000	1.000	5.000	0.718	1.849	-0.837
FPCS1	4.071	4.000	2.000	5.000	0.748	-0.033	-0.494
FPCS2	4.136	4.000	2.000	5.000	0.739	0.226	-0.614
FPCS3	4.097	4.000	1.000	5.000	0.745	1.205	-0.731
FPSV2	4.052	4.000	2.000	5.000	0.719	0.938	-0.714
Organization	0.000	0.038	3.000	5.000	1.000	2.356	-1.141
Social Media Adoption	0.000	0.189	3.000	5.000	0.840	0.708	-0.592
Technology	0.000	0.224	3.000	5.000	1.000	1.145	-0.920

Quantitative Data Analysis

The study has employed a quantitative methodology to analyse the data and provide answers for the research questions and hypothesis. The PLS-SEM will integrate the conceptual

framework mentioned in chapter 3. In the conceptual framework model, social media adoption is an endogenous/predictor/independent construct and also serves as a mediator for entrepreneurial orientation. Social media adoption has three outer model or measurement models: technology, organization and environment context that has reflective indicators. These outer model variables were used to ascertain the direct relation to social media. Entrepreneurial orientation as an endogenous construct is reflective in nature as the three variables are impacted by entrepreneurial orientation. MSMEs performance is an exogenous/dependent/criterion construct with reflective indicators.

Measurement Model assessment

The research has a reflective-formative approach for social media adoption and entrepreneurial orientation. A measurement model that is reflective suggests the latent determinant is the variable that is measured, making the latent construct independent of the specific measurement in the study; this can be measured in two ways: formative measurement and reflective measurement. A formative model derives the construct where the latent variable forms a set of its indicators, allowing each item in the construct to not always possess the same theme, as seen in reflective models (Coltman et al 2008). The correlation between observable variables known as indicators and unobserved variables known as latent variables is represented by the outer model which is shown on the measurement model. The research used a two step sequence as outlined by (Becker et al 2012) who suggested that the measurement model assessment should be conducted first and then secondly the structure model assessment.

According to Roldan and Sanchez (2012) the process of measurement model assessment should involve individual item reliability (factor loadings), validity which looks at content and discriminant validity and finally internal consistency. In the measurement directed indicators are the paths that link the construct (Hair et al 2017). Outer loadings are the relationships between the reflecting construct and the measured indicator variables. Paths are known as the link of a construct to indicators, and these are pointed to the construct to show formative construct where paths pointed away from the latent construct signifies reflective construct. In the model, the weights indicate the relationship between the indicators that are measured and the formative constructs (Ramajah et al 2018).

A Confirmatory Tetrad Analysis (CTA) was conducted using the PLS-SEM in the process to determine between formative and reflective measurement models (Hair et al 2024). This is as a result that a construct idea is not always reflective or formative hence based on theory logic the CTA can be done to remove doubts as to the type of measurement model being used (Guederganet et al 2008). To conduct a CTA test each construct of the model must possess at least four items in order for the test to be evaluated (Hair et al 2024). In this study the SMART PLS 4 software was used to test the measurement structure. Here, the significance of the p-value and the confident interval adjustments would indicate to the researcher the type of model. The CTA was done five constructs indicated that they are reflected and can be seen on table 19 and *figure 10*, where the p-value is significant which means it is above 0.05 ($p > 0.05$) telling us that the construct is should be modelled as reflective. Table II indicates the results of the CTA analysis test after the process was done with the SmartPLS 4 software using a two tailed setting

with 5000 subsamples and 0.1 as the significance level. Five constructs were tested as reflective (entrepreneurial orientation, firm performance, technology, environment and organization context) and all have P-value greater than 0.05 ($p > 0.05$) and confidence interval low and high adjustment of negative (-) to Positive (+) confirming that these are reflective and further assessment can take place (Hair et al 2024). Additionally, if a zero is included in the adjusted confidence level then it further proves as a reflective model and should be assessed as such.

Table 19

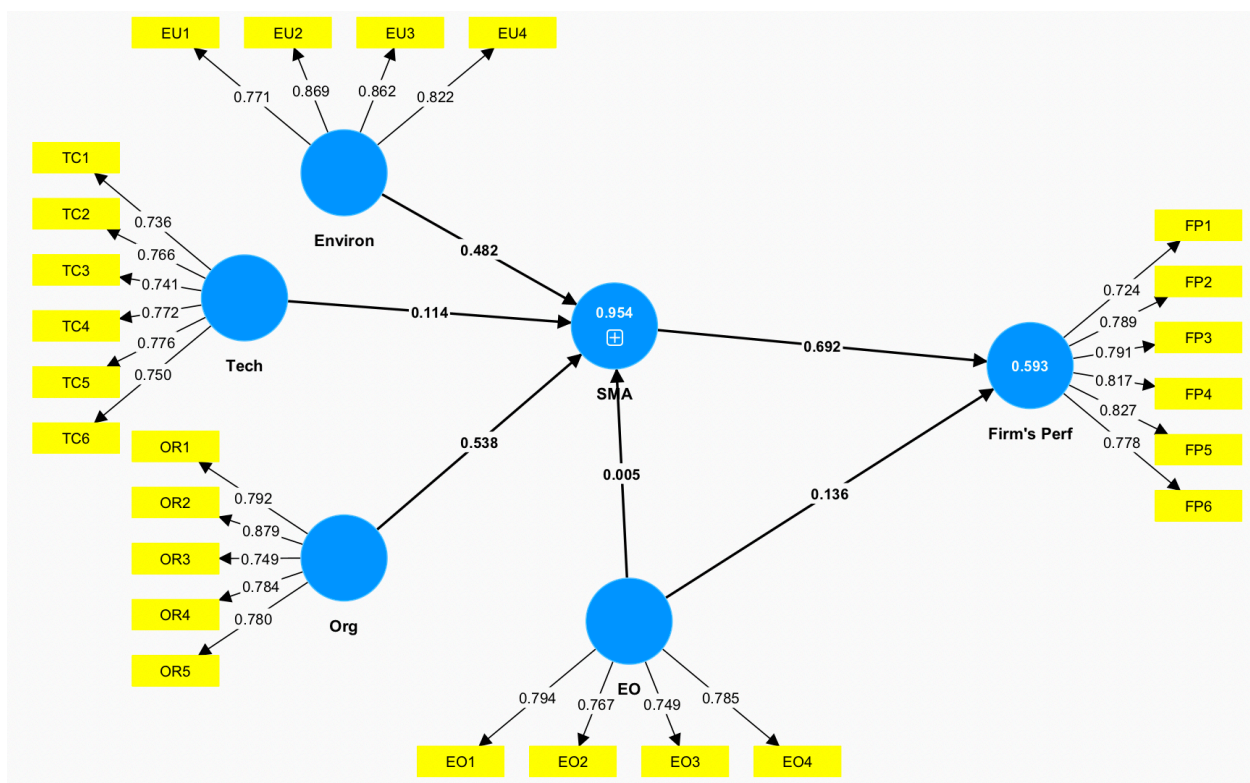
Confirmatory Tetrad Analysis

Construct	<i>P values</i>	<i>CI low adj.</i>	<i>CI up adj.</i>
1: EOP1,EOP2,EOR2,EOR3	0.131	-0.015	0.127
2: EU1,EU2,EU4,EU3	0.424	-0.026	0.063
3: FPBA1,FPBA2, FPCS1, FPCS3	0.277	-0.061	0.024
4: OER, OER3,OS1,OMS2	0.147	-0.053	0.169
5: TCMB1,TCMB2,TCMB4,TRA3	0.128	-0.025	0.105

An in-depth group of indicators that correctly represent the domain of a construct and supported by prior research is essential to model formative constructs . The use of formative indicators are essential due to the fact that they cannot be replaced as in the case for reflective indicators (Hair et al 2017). If this occurs then the critical components of the construct model would be affected as a result researchers should not ignore this aspect of the model (Ramajah et al 2018). Figure 10 shows the construction model done through the SmartPls 4 software.

Figure 9

Research model using Smartpls4.



Reliability Test/Internal Consistency

Reliability assesses the internal consistency of indicators and their relationship to the hidden component. It means 'repeatability' or 'consistency' and is realized when measures provide the same result over time (Trochim 2006). Internal consistency is a key component not

to be ignored when conducting a research. It seeks to evaluate the coherence of items measuring the same construct. The benefit of this is that it ensures that each item is consistently reflecting the same underpinning concept which aids with the accuracy of the measurement. A high degree of internal consistency signifies that the instrument that was used in the data collection evaluates the targeted construct regularly and consistently across all its items. This is essential for the validity of the results (McNeish 2018). The two most common approaches to measure dependability in research are Composite dependability (CR) and Cronbach's alpha. Internal consistency is vital, and thus it evaluates the consistency of factor outcomes. According to Nunnally (1978), Cronbach alpha values should be greater than 0.7. As a result, the construct reliability shown in table (III) shows that the Cronbach's alpha values are above 0.7, as are reflective indicator loadings, indicating that indicator reliability has been established. An internal consistency measure also known as Composite reliability, has loadings ranging between 0.784 and 0.881 which also confirms construct reliability, in the case of Hair, Ringle and Sarstedt (2013) 0.70 is the accepted value.

Factor loadings - Reliability of Indicators

Factor analysis is the process of determining how variables are intercorrelated with each other. The procedure gives rise to mathematical models that outline constructs within a group of similar items. The analysis gives what are called 'factor loadings' which have a range from -1.0 to +1.0 similar to that of correlation coefficient, and where the higher values are indicative of stronger correlation between items (Pett et al 2003). Factor loadings can also aid in item

reduction as there could be multiple items that are exhibiting the similar variance or the variance could be low and hence should be removed (Gerber and Price 2018).

Factor loadings derived from indicators and hence this could also be considered as indicator reliability, which shows how much of the indicator variance can be explained by the latent variable (Vinzi et al 2010). The indicator reliability is to test how indicators are aligned with what is being measured. As a best practice method, the individual indicators in the reflective model with loading lower than 0.708 were removed. Questions with loadings ranging from 0.40 to 0.708 can be kept, even though 0.708 is preferred (Hair et al 2016; Vinzi et al 2010). When the deletion of an item improves the Average Variance (AVE) or reliability of the composite, items possessing factor loading below 0.708 should be removed (Hair et al, 2016). In this study items/questions were deleted from the latent constructs even though most were about the 0.40 threshold. Removing components with loading below 0.70 improves the model fit and loadings greater than 0.70 show that the construct outlines at least 50% of the variance of that indicator. According to Diamantopoulos and Winklhofer (2001), reflective indicators can be interchanged as the fundamental of the construct characteristics will not alter if any of the components were to be removed. Therefore, for this study, 6 items were deleted from the technology reflective construct, TCMB1-0.682, TCMB3-0.669, TCMP2 TCMP 3- 0.631, TRA1 - 0.567 , TRA4 - 0.671,. For the organization construct, 5 items were eliminated, OER1 - 0.652, OER3 - 0.684, OMS3 - 0.691, OS2 - 0.611, OS3 - 0.672, and 8 from the environment construct, ECP1 - 0.653, ECP2 - 0.685, - ECP3 - 0.674, ECP4 - 0.455, EGS1 - 0.613, EGS2 - 0.648, EGS3- 0.469 , EGS4 -0.598. All the other values and items were retained. *See figure 11 and table 20).*

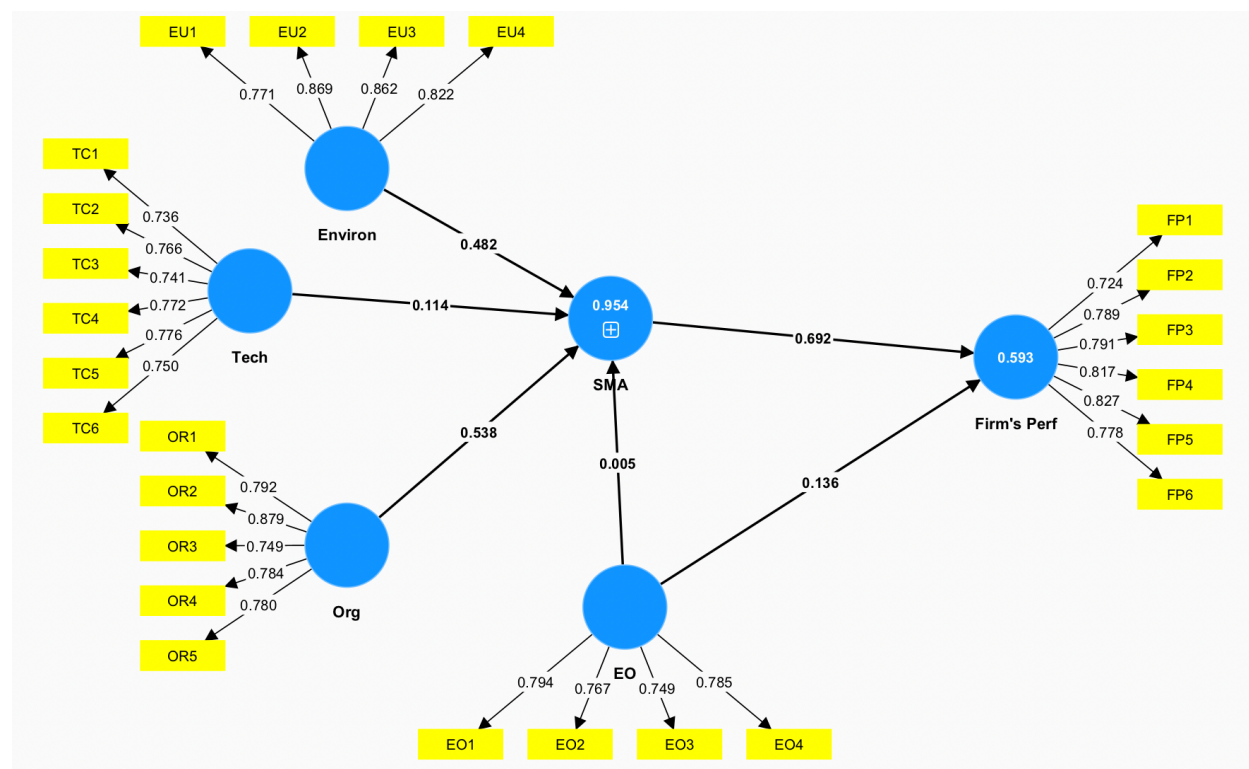
Figure 10*PLS SEM with all factor loadings*

Table 20*Indicator loadings and LOC*

Construct	Item	Loadings > 0.7
Technology	TC1	0.736
	TC2	0.766
	TC3	0.741
	TC4	0.772
	TC5	0.776
	TC6	0.750
Organization	OR1	0.792
	OR2	0.879
	OR3	0.749
	OR4	0.784
	OR5	0.780
Environment	EU1	0.771
	EU2	0.869
	EU3	0.862
	EU4	0.822

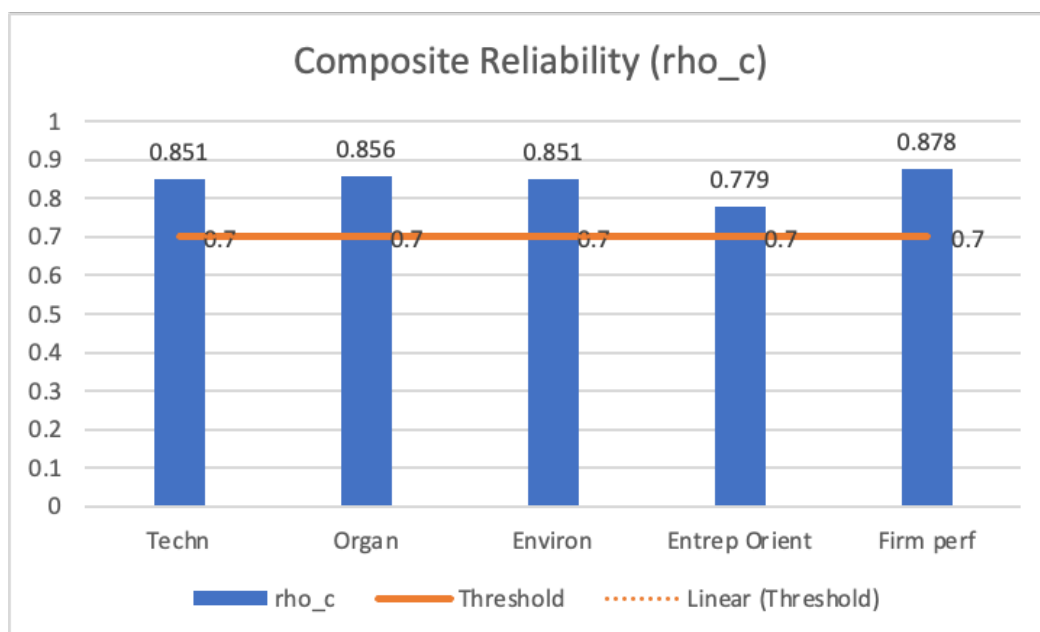
Entrepreneurial Orientation	EO1	0.794
	EO2	0.767
	EO3	0.749
	EO4	0.785
Firm's Performance	FP1	0.724
	FP2	0.789
	FP3	0.791
	FP4	0.817
	FP5	0.827
	FP6	0.778

Composite Reliability (ρ_c)

Composite Reliability (ρ_c) Composite reliability accounts for measurement errors as well as shared variation among items to assess a construct's internal consistency. Higher composite reliability typifies the close correlation between the construct's items and their measurement of the same underlying construct. It is customary to establish a threshold of 0.7 or above for acceptable composite dependability (Hair et al 2017) Table 21 illustrates the results for and figure 4.3 shows the threshold of 0.7 and the constructs that are about which signifies composite reliability. It tells how the indicators are representative of the construct.

Table 21*Cronbach and Composite reliability*

	Cronbach's Alpha (α)	Composite reliability (CR)
Technology	0.851	0.851
Organization	0.856	0.86
Environment	0.851	0.85
Entrepreneurial		
Orientation	0.779	0.784
Firm performance	0.878	0.881

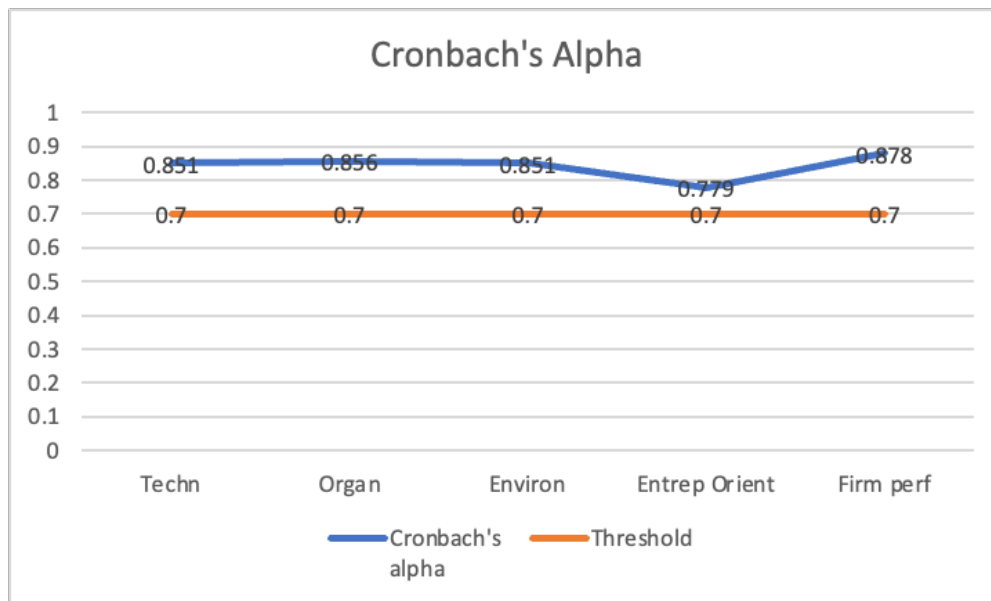
Figure 11*Composite reliability results*

Cronbach' Alpha Reliability

This is a regular metric employed to determine the dependability of a model. If there is a higher score than it indicates that stronger dependability in the inner integrity of the survey (Hair et al 2017). Scores higher than 0.90 are deemed outstanding, scores within 0.89 and 90 are favourable, results of 0.79 and 0.70 suitable, scores in 0.60 and .69 range are insufficient and scores that are 0.59 and 0.50 are inadequate and below 0.50 is unacceptable (George and Mallery 2016). Figure 12 illustrates that all the constructs are in the favourable and suitable categories, with the blue line representing the constructs and the orange line is the threshold. This exhibits that the model is reliable. The lowest Cronbach's alpha score is entrepreneurial orientation with 0.784, as a result the model will be maintained for the research.

Figure 12

Cronbach alpha reliability



Cronbach's alpha has been employed in studies to evaluate the internal consistency and dependability of data. Consequently, the test has a tendency to produce conservative results and there are studies that have advised against it (McNeish 2018). However, the confirmation of the composite reliability indicates that the questionnaire was accepted. The argument of which reliability test to use, proves that composite reliability is comparable to the Cronbach's alpha, even though it is more trustworthy even that the every element is not required to possess the same loading (Heidel 2024). Hair et al (2016) postulate that reliability construct for the composite testing is satisfactory if the scores are between 0.60 and 0.70. On the other hand, scores ranging from 0.70 to 0.90 are good but if it's above 0.90 the indicators should be re-evaluated and if beyond 0.95 then these must be disregarded (Wong 2019). As shown on the figure 13 all the constructs are between 0.7 and 0.9 which indicates that all the constructs can process in the model.

Construct Model - Validity

This test is to show that whatever the construct indicates to be measuring is what actually is being measured. Construct validity is widely used in education, social sciences and psychology. Therefore, the construct validity is to test the theory that states a presumed meaning (Cronbach and Meehl 1955). Construct validity is considered the most complex and thorough type of validity. This type of validity is useful for testing a theoretical rationale. Construct validity is developed on theoretical underlying concepts. This is where the investigator uses processes to understand the evaluation tool and its link to the variables. The measurement model

should then show collaboration with the indicators when the construct validity is to be established (Depoy and Gitlin 2016).

Convergent validity

A subtype of validity testing that examines two measures that should measure the same thing and shows that they are convergent, or linked. In other words, convergent validity measures the extent to which an indicator is positively connected to other indicators that are from the same construct (Urback & Ahlemann 2010). This validity is normally accomplished when two measures show correlation, even though it is highly uncommon that both measures will be perfectly convergent (Carlson & Herdman 2012). This type of validity is therefore confirmed when the extracted Average Variance (AVE) is greater than 0.50. (Larcker DF, Fornell C, 1981 ; Sarstedt et al 2017), which is known by the mean of all squared loadings that are made of the indicators or loadings. Therefore, the AVE is an indication if the indicators that are to be measuring the same concepts are relational. If the researcher is to create a construct to be regarded as valid then the process to develop convergent validity is a requirement, this is essential to identify the association strength of the two metrics in the construct.

When assessing the latent variable validity the standard practice states that the variable should represent at minimum 50% of the variation of each indicator (Hair et al 2017; Ramayah et al 2018). The explanation of this acceptable standard practice simply means that the squared 0.7082 equals 0.50 therefore the outer loading of each indicator from every construct should be greater than 0.708. The lowest AVE in this construct is technology characteristics which is made up of six (6) indicators all with scores above 0.708 which could have been the reason for this

lower other construct and acceptance of errors. The highest AVE was the environment characteristics with 0.692, for this lower order construct five (5) indicators were used with higher factor loadings scores. However, all the Lower Order Constructs (LOC) have AVE values greater than 0.50. which confirms the validity of convergence. (See table 22).

Table 22

Convergent validity

Average Variance Extracted	
Constructs	(AVE)
Technology	0.573
Organization	0.637
Environment	0.692
Entrepreneurial Orientation	0.599
Firm performance	0.621

Discriminant Validity

This validity is also a part of testing the model and shows that there is no correlation between measures. Therefore, two measurements that should not be connected should be proven that they are not in order to ascertain discriminant validity (Carlson & Herdman, 2012). In order words, the latent variable has more variation than in the observed variables and where this fails to exist the individual indicators and the construct of the study may be questionable (Fornell and Larcker 1981). To further ascertain the discriminant validity, there are three ways:

- (i) cross-loading criterion
- (ii) Fornell and Larcker criterion
- (iii) Heterotrait-monotrait (HTMT) Criterion

It is crucial that for cross-loading tests, the indicator loadings should be higher than the loadings of all other latent variables in that construct (Ringle & Avkiran 2018). It can be argued that the loading indicator's value cannot be substituted with other constructs if each loading is greater in value than the other constructs to which it is allocated (Hair et al 2016). The cross-loading scores are represented on table 23. The highlighted values signifies the loading with the most substantial relation in the construct. In this study EOP1 is an indicator loading connected to the entrepreneurial orientation construct with the highest loading of 0.794. For this construct it is evident that all four indicators are higher than all other indicators in all the other constructs such as environment and firm performance. This is consistent with all the other constructs and their indicator loadings, which confirms discriminant validity using the cross-loading criterion. Therefore, it is evident that the factoring loadings in the respective constructs such as entrepreneurial orientation possess higher values than all of the other constructs and all the values are about 0.7 (Hair et al 2014)

Table 23

Discriminant cross loadings validity

	Entrep Orient	Environment	Firm Perf	Organization	Technology
EOP1	0.794	0.346	0.303	0.335	0.362
EOP2	0.767	0.318	0.339	0.377	0.332
EOR2	0.749	0.245	0.368	0.402	0.336

EOR3	0.785	0.291	0.470	0.378	0.476
EU1	0.320	0.862	0.533	0.398	0.336
EU2	0.215	0.869	0.469	0.425	0.327
EU3	0.270	0.594	0.580	0.473	0.477
EU4	0.273	0.822	0.520	0.442	0.432
FPBA1	0.349	0.439	0.724	0.494	0.559
FPBA2	0.348	0.503	0.789	0.488	0.463
FPCS1	0.438	0.421	0.791	0.498	0.568
FPCS2	0.401	0.444	0.817	0.537	0.497
FPCS3	0.399	0.555	0.827	0.625	0.597
FPSV2	0.365	0.511	0.778	0.527	0.483
OMS1	0.434	0.417	0.590	0.792	0.585
OMS2	0.357	0.480	0.567	0.879	0.588
OMS3	0.363	0.375	0.485	0.749	0.562
OMS4	0.374	0.414	0.509	0.784	0.487
OS1	0.402	0.473	0.532	0.780	0.523
TCMB1	0.370	0.339	0.543	0.554	0.736
TCMB2	0.392	0.331	0.504	0.504	0.766
TCMB3	0.343	0.403	0.528	0.512	0.776
TRA1	0.441	0.419	0.503	0.508	0.741

TRA2	0.362	0.293	0.474	0.546	0.772
TRA3	0.332	0.305	0.494	0.499	0.750

Fornell and Larcker Criterion

This validity which is known as the discriminant, can be confirmed using the criterion set by Fornell and Larcker. Using this criterion, the correlation of the latent construct should be aligned to the square root of average variance extracted (AVE). The AVE should be greater to the correlations of the latent variable constructs (Hair, Ringle, and Sarstedt 2013). See table 24 and the figures underlined in bold.

Table 24

Fornell-Larcker Criterion

	EO	Environ	Firm's Perf	Org	Tech
EO	0.774				
Environ	0.386	0.832			
Firm's Perf	0.487	0.61	0.788		
Org	0.483	0.543	0.674	0.798	
Tech	0.494	0.462	0.671	0.688	0.757

This process simply makes a comparison of the square root of the variance extracted average (AVE) with the correlation of latent constructs (Hair et al 2014). Therefore 0.774 is the square root of 0.599 that represents the AVE which should be higher than 0.386 as the

correlation between EO and Environment construct. As a result, the AVE for the construct should be higher than its correlation with the other constructs in the research, examining the diagonal latent values as shown on the table in bold. In this study one latent construct is social media adoption, which should better outline and explain the variance within its indicators (technology, organization environment) more than the variance of the entrepreneurial orientation as another latent construct. This establishes the discriminant validity of this study.

Heterotrait-monotrait (HTMT)

This ratio is in addition to discriminant validity. According to a Monte Carlo analysis, HTMT can obtain precision and sensitivity rates of up to 97-99%, in comparison to the Fornell-Larcker rate of 20.82% and the ‘cross-loadings’ criterion of 0.00% (Henseler et al., 2015). Values of loading are normally compared to a predetermined threshold when using the HTMT criterion, which indicates that validity is achieved if the HTMT is above the threshold. With this approach it is suggested that the value should be less than 0.90 (Gold et al 2001) however, Kline (2011) proposes a 0.85 threshold. On the other hand, a number close to 1 signifies that discriminant validity is lacking . Table 25 demonstrates that the values are lower than the recommended level, indicating the achievement of discriminant validity.

Table 25

HTMT Ratio

	EO	Environ	Firm's Perf	Org	Tech
EO					
Environ	0.472				
Firm's Perf	0.577	0.702			

Org	0.591	0.631	0.773	
Tech	0.597	0.538	0.775	0.807

Based on the number of research that have used the cross-loadings criterion and the Fornell-Larcher tests, some researchers were able to identify that these two tests are not the best in testing for discriminant validity as they felt the two tests are not sufficient with regards to sensitive issues of this type of validity (Hair et al. 2015, Hamid et al 2017). The suggested alternative to these aforementioned tests is the Heterotrait-Monotrait (HTMT) which is an approximation of the true relation of two entities. Reflective constructs that possess values that are lower than 0.90 are the ones that exhibit discriminant validity (Henseler et al 2015).

To accomplish the proof of discriminant validity, researchers tend to employ bootstrapping to arrive at a HTMT statistic. The objective of performing this technique is to identify whether the confidence interval lower and upper bound contain the value 1. If this result range is between 1 then it indicates that the data lacks validity (Hair et al 2014). On the other hand, if the values are beyond 1 then that is considered to be separate from each other.

Table 26

Summary of results for measurement model

Criterion	Description /Thresholds	Results
Factor loadings	Indicator reliability of external loadings ≥ 0.7	Indicator reliability of external loadings ≥ 0.7 , covariance of distribution
Composite reliability (rho_c)	Internal consistency tells how the indicators represent the construct $\rho_c \geq 0.7$	All construct $\rho_c \geq 0.7$, indicators are representative of the each construct
Validity: Convergence	The degree of share variant among indicators of a construct AVE $>$	All constructs AVE > 0.50 Indicators measuring same

	0.50	concepts are relational
Validity: Discriminant Fornell-larcker criterion	There is no correlation between measures. AVE of a construct should be above the square of another construct	AVE for each construct is higher than its correlation with the other construct
Cross-loadings	Individual indicators loading higher on construct it should be measuring	The indicator loadings are higher than the loadings of all other latent variables in the construct.
Heterotrait-monotrait ratio of correlations (HTMT)	A multitrait multimethod matrix to measure discriminant validity ≥ 0.85 but not above .90	All construct possess indicators and construct < 0.85 .
Indicator reliability	Loading of formative construct, if the loadings are below .70 they should be removed. ≥ 0.7	All loading for formative construct above 0.7

STRUCTURAL MODEL ASSESSMENT

Assessing the formative measures is different to that of the reflective measurement. This is so as the formative measurement looks at indicators as having direct links to the construct, whereas, reflective measurement is considered more with the error possibilities of indicators in the construct model (Adamantios Diamantopoulos et al 2008). In conducting the measurement, it is advised for researchers to first conduct a redundancy analysis to establish construct's convergent validity, then the second step is to look at collinearity issues and finally to evaluate the indicator weights of formative construct (Adamantios Diamantopoulos et al 2008). Figure 2 indicates the research model constructed using Smartpls 4 software. It is essential to ensure that lateral collinearity is not a problem before assessing the structural model (Hair et al 2015). The reason for this is that even when there is discriminant validity which is vertical collinearity, predictor criterion collinearity which is lateral collinearity can subtly skew the results and can affect the causal impact of the model (Knock & Lynn 2012).

Collinearity comes into existence when there is an association between two or more items within a construct (Hair et al 2016). It is where two indicators show link and correlation between them. Therefore, the Variance Inflation Factor (VIF) becomes the standard to weaken the collinearity problems with the threshold of 5.0. As indicated on table 25 there are no collinearity issues in this model for the research.

Variance Inflation Factor (VIF)

The three lower order constructs in the study—technology, organization, and environment (TOE)—were the foundation for the higher order construct, social media adoption. The collinearity statistics (Variance Inflation Factor, or VIF) and the outer weights and loadings demonstrated that the high order construct is of the required validity which is a formative model. The PLS SEM Software 4 gives the opportunity for users to check the validity of higher order scores. This is where all the indicators of the lower order construct such as Technology Organization and Environment characteristics were created as one latent score and represents one single construct. The process was done by bootstrapping at 5000 subsamples. The model is illustrated in a figure that shows each lower order construct as one.

The VIF is used to determine the near-multicollinearity within the model. If there is collinearity which means that there's a relationship between two or more input variables then this could be as a result of mistake (Hawkins 1983). If the VIF is high where 10 is the traditional accepted threshold and the number is higher than there is a problem. However, VIF values of greater than 5 indicate that there are collinearity problems and one of the associated indicators may need to be excluded (Hair et al 2017). Hence from the perspective of the theory the measurements that are left should correctly represent the construct. Table 27 exhibits VIF for all

three higher order constructs (HOC) for social media adoption are lower than 5. The outer loadings were then assessed and found to be significant as values were found to be over 0.5. According to Sarstedt et al (2019) indicators of higher order should have outer loadings greater than 0.5 to be considered significant. This therefore signifies that the Higher Order Construct (HOC) validity has been confirmed based on the requirements.

Table 27

Higher order construct validity

Construct	Item (LOC)	Scale	Outer Weights	Loadings	P-values	T-values	VIF
Social Media Adoption	Technology	Formative	0.472	0.822	0.000	5.118	1.940
	Organization		0.363	0.877	0.004	2.874	2.163
	Environment		0.348	0.763	0.000	3.689	1.447

Path Coefficients (β)

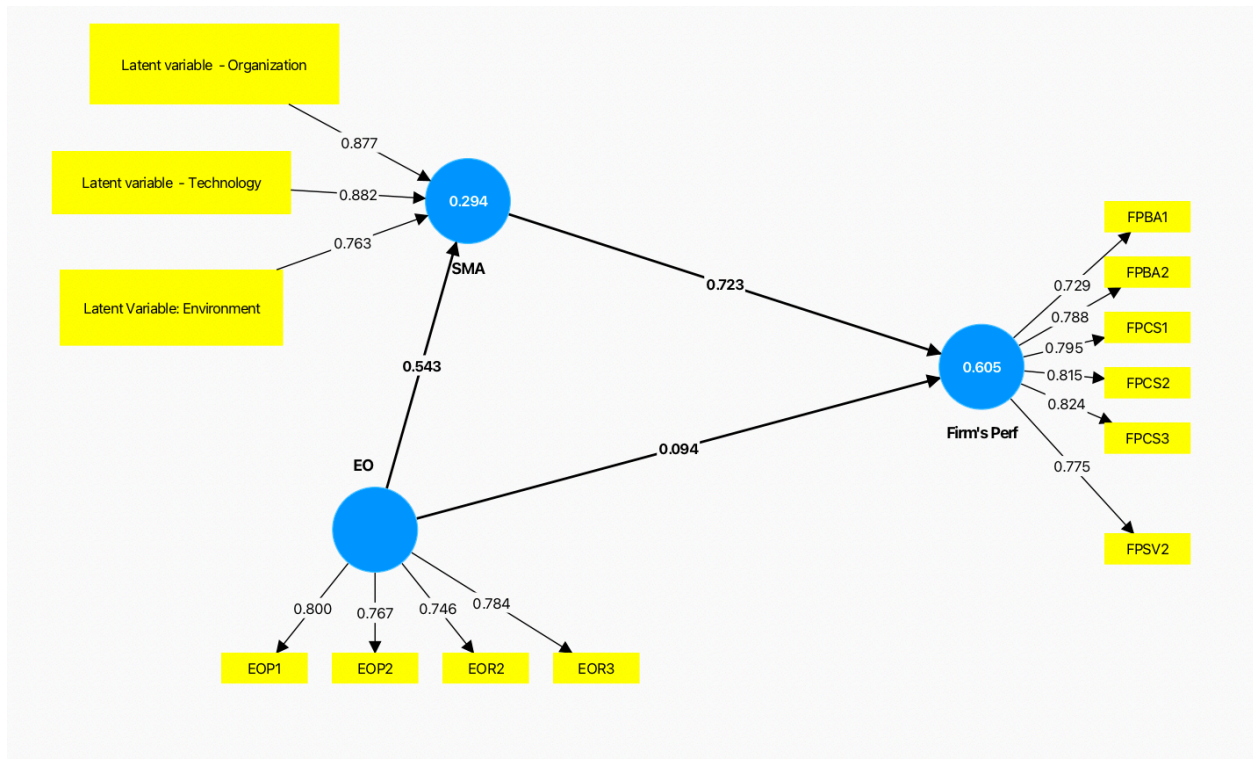
This research paper tested the hypothesis using the (PLS-SEM) which is the partial least square-structural Equation Model 4.0 software. Bootstrapping was utilized as the way to identify the path coefficients, including the *t-value* for relationships mediating and direct. Figure 4.5 The structural equation model and Path coefficient illustrates three latent constructs with a number of observed variables which are the indicators. Sarstedt et al (2013) evaluate beta the path coefficients (β), and path significance which is known as the (P-value), also T-value, and

coefficient of determination (R-square) R^2 in the PLS structural model used to generate the linear regression of the dependent model construct.

The beta coefficient depicts the connection between two or more constructs (Hair et al 2016). It is the level of change in the dependent variable affected by the predictor or independent variable. The standardized beta ranges from positive (+) to Negative (-) which indicates the weight as the beta value. The stronger the influence of the independent variable on the dependent variable the closer the value will be to 1. If a beta has a value higher than 0.10 it demonstrates the association between the variables (Garson 2016) The path coefficient is social media adoption to firm's performance with 0.723, which demonstrates a strong impact of social media on firm's performance. Entrepreneurial orientation is weaker with a score of 0.094, even though it is moderate for social media adoption.

Figure 13

The structural equation model and Path coefficient



P-value is the probability value. Therefore, assuming that the actual value in the population is zero, the p-value reflects the possibility of obtaining a sample value for the coefficient that is as severe as the observed value (Buckland et al 1994). This is statistics that assists in establishing if there is a correlation between two variables are not. A p-value less than 0.05 is significant hence a hypothesis would be supported (Hair et al 2016). Table 31 shows the results and the supported hypothesis and the ones that are not.

A t-statistics of value larger than 1.65 at a 10% significance level should be considered, at minimum, in order to illustrate some sort of meaningful correlation in the context of an investigation. This statistics, outlines how far your obsessed data is from your null hypotheses, confirming no relation in the variables. On the other hand, 5% significant level using a two tailed

test would be seen and accepted as significant but this should be more than 1.96. Additionally, the t-statistics value ought to be higher than 2.57 at 1% significance level in order for it to be assessed (Haier et al 2016). As evident in table 31 all the hypotheses are accepted apart from entrepreneurial orientation to firm performance with a t-statistic lower than 1.96 and shows not substantial relationship between the two. The standard deviation or the standard error indicates how far the mean of the sample is from the mean of the population. Therefore, a large standard deviation demonstrates that the data points are far from the mean and a small value indicates that the data points are closer to the mean (see table 31).

The R- Squared (R^2) measure, which displays the variance in the dependent variables, can be used to assess a model's explanatory capacity (Sarstedt et al 2013). Endogenous factors in the study include social media adoption since it is based on technology, organization, and environmental constructs, and business performance is determined by social media adoption and entrepreneurial attitude.

The R^2 (R-square) value has had a number of recommendations as to what values should be accepted. The statistics simply explain how much change in the dependent variables are as a result of the independent variables. Therefore, how much is social media adoption affected by a change in any of the independent variables such as technology, organization and environment. R^2 values are normally between 0 to 1. In 1992 Falk and Miller gave the recommended value equal to or greater than 0.1 in order for that endogenous construct to be accepted as adequate. More recent research, however, has recognized '0.67 to be strong, 0.33- moderate, and 0.19 - weak' (Chris 1998). Ringle et al. (2011) recognize 0.25 to be weak, 0.50 - moderate, and 0.75 - significant. The R-squared values for social media adoption and company performance are 0.249 and 0.605, respectively which demonstrated that there is sufficient predictive relevance. Thus,

according to Onyutha (2020), the entire impact of each independent variable on the dependent variable is demonstrated by the R-square. Table 28 and Figure 14 illustrate the model strength.

Table 28

Coefficient of determination R^2

	R-squared	R-squared adjusted
Firm's Perf	0.605	0.60
SMA	0.294	0.29

The R-square shows that for firm performance 60.5% of the change in MSMEs performance during the covid-19 pandemic can be attributed to the social media adoption and entrepreneurial orientation. The same is true for social media adoption that shows 29.4% of change is as a result for the technology, organization and environment context along with entrepreneurial orientation. Figure 13, is the graphical representation after running the PLS algorithm on the SMARTPLS 4 software. The latent construct of the TOE as these are first order constructs that contain the indicators. The arrows away from the blue circles are reflective indicators. The blue circles represent the constructs, whereas the arrows show the path of the model. The number on each path represents the path coefficient.

Effect size f-square (f^2)

When a particular exogenous construct is removed from the model like technology, the change in R^2 - squared value can be used to assess if the removal of that exogenous construct has

a significant impact on the endogenous construct such as firm performance or social media adoption. This is called the effect size f-squared measure (Hair et al 2016). Cohen (1988) outlines the following standard when assessing f-squared effects, if the change is equal 0.02 then the effect is considered as small, if 0.15 then the effect is moderate or fair, and an effect change of 0.35 is considered a high effect . As shown in table 29 the effect size between firm performance and entrepreneurial orientation is small so insignificant unlike the other entrepreneurial orientation with social media adoption and social media adoption with firm performance with an effect of 0.933.

Table 29

Effect size f^2 and Q^2 square predict

	F ² - Square		Q ² -Square
	Firm's Performance	Social Media Adoption	
EO	0.016	0.417	
Firm Performance			0.204
SMA	0.935		0.24

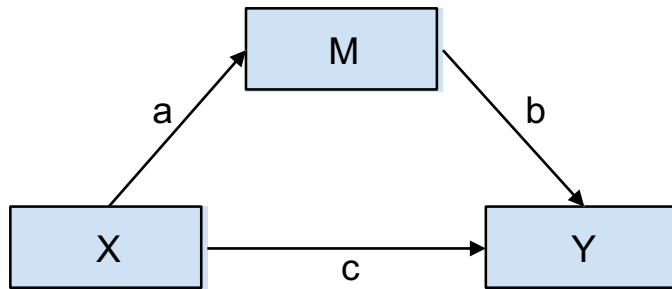
Predictive relevance (Q^2)

According to Hair et al 2014, whilst the coefficient of determination (R-square) is good to identify the predictive significance of a construct, they recommend that researchers calculate the Stone-Geisser Q^2 numbers to further enhance the predictive relevance of a model. A value of Q-square above zero (0) demonstrates that there is predictive validity for endogenous design in addition to the reflective indicators (Avkiran & Ringle 2018). As instructed by Hair et al

(2014) the value of Q-square should be derived from the process of PLSpredict conducted on the SMARTPLS 4 software. Therefore, the q^2 -square indicates to what extent data collected empirically can be reconstructed with models to predict new observations (Fornell and Cha 1994). The results of the Q-square can be interpreted with the following threshold as 0.02- weak, 0.15 moderate, and 0.35 strong (Hair et al 2013). These Q-square results can be seen on table 29 which are indicative of predictive relevance as they are over zero and are in the moderate category.

Mediating Analysis

This study used mediation analysis to explore the possible substantive impact of entrepreneurial orientation, social media adoption and firm performance. This process is to understand the impact of the independent variable (Entrepreneurial Orientation) on the dependent variable (firm performance) and how this was mediated by social media adoption which is mediator as shown in figure 15 model. The mediation role of a variable is that it operates as an intermediary for that falls in the middle of the independent and the dependent variables, which creates an indirect effect (Preacher and Hayes 2008; Hair 2016). One of the main goals of conducting an analysis like this, is to explain (Henseler et al 2016) , however, other researchers have included the reason for prediction (Shmueli et al 2016). The Nitzl et al (2016) method of conducting the mediating analysis using PLS S SEM was done in the study.

Figure 14*Mediating model*

The mediating variables are some time as a way to effectively determine the functionally of the study, as mediator are employed to determine the impact of an exogenous construct has on an endogenous construct. Mediator are known as ‘process’ variables as it intervenes between constructs (Muller et al 2005). The concept behind a mediator is to provide an independent variable with an avenue or path to which the effect on the dependent/criterion can be measured, therefore the independent variable has no direct relation to the dependent variable. The figure shows that X and Y have a direct relation that can be connected through path c, however, M is the mediator between X and Y and creates a new path which would be $(a+b)$. The importance of the mediator variable is that it helps the researcher to not only consider linear relational connections with various constructs but it aids to provide some causal relevance for the researcher to develop a deeper understanding of the relationship being investigated (Kenny 2014). The following steps have been documented for researcher to use when testing mediators. The first step is to demonstrate that variable X has some relation to variable Y, the what follows is to show the relation of variable X to M (mediator). The researcher finally needs to illustrate how the mediator variable impacts the dependent variable Y, and this should not just direct effects or relation because both variables X and M can possess direct correlation. Therefore, the effect of X on Y should be measured while controlling M (Baron and Kenny 1986).

The researcher's first step was to identify the indirect effects and its significance. SMARTPLS 4 software was utilized to run the process where the bootstrapping of the indirect effect sample was achieved and provided vital information pertaining to the population. This was done in line with the non-parametric PLS-SEM method for calculations, bootstrapping 5000 subsamples to produce a path model (Henseler et al 2009) see figure 3. Additionally, the confidence interval method was selected at bias corrected and accelerated bootstrapping at a 5% confidence level two-tailed test. This is in line with Hayes and Scharkow (2013) who believe this is the best approach when trying to identify the mediation effects. Figure 14 shows the path coefficient of 0.543 for the direct relation between entrepreneurial orientation and social media adoption which indicates significant relation and 0.723 as path coefficient for SMA to firm performance, which confirms that both direct paths are significant. The path coefficient for the indirect path (OE → SMA → firm performance) is 0.392, t-value is 6.036 and the p-value is 0.000 which can conclude significant relationship that social media adoption mediates entrepreneurial orientation. The results are illustrated on table 31. A calculation also supported the results ($0.543 \times 0.723 = 0.392$).

However, it is essential to determine the strength of the mediation as recommended by Hair et al 2014, this can be done by calculating the variance accounted for (VAF). The formulae

to complete the computation is $\frac{\text{Indirect effect}}{\text{Total effect}}$ $\frac{\text{Indirect effect}}{\text{Total effect}}$. The threshold limits for VAF are 0-

20%, 20 -80% and higher than 80% which can be interpreted as no mediation, partial mediation and full mediation (Hair et al 2014).

$$\text{VAF} = \frac{0.543 \times 0.723}{0.543 \times 0.723 + 0.094} \approx \frac{0.543 \times 0.723}{0.543 \times 0.723 + 0.094} \approx 80.6\%$$

The results demonstrate that social media adoption has a full meditating effect of entrepreneurial orientation. Table XII reveals significant indirect relation between EO, SMA and Firm performance ($\beta=0.392$, $t=6.036$, $p<0.05$). Social media as a mediating role has shown significant relationship in research done by Fan et al 2020 and Maharjan 2024.

Table 30

Summary of structural model results

Criteria	Description /Thresholds	Results
Multicollinearity	‘Utilized the variance inflation factor VIF to establish the correlation between the formative indicators. $VIF < 0.5$, means there is no collinearity ‘	VIF for all higher order constructs is lower than 0.5. Therefore no collinearity issues.
R ² square Latent variable	Tells how much change in the dependent/ endogenous construct is as a result of exogenous/independent variables. $R^2 \geq 0.67$ -strong $R^2 \geq 0.33$ moderate $R^2 \geq 0.19$ weak	The change in performance is 0.60 which indicates moderate change in the exogenous variable. For social media adoption its 0.29 which indicates weak changes.
Path Coefficient β	Indicates the connection between two or more constructs. It deals with strength and significance. Closer to 1 is strong in relation and significance of relationship	SMA→Firm’s performance is 0.723, EO → Performance 0.094. EO →SMA is 0.543
f^2 Effect size	This is how much variance is in the endogenous variable that was caused by the exogenous/independent variable. $f^2 = 0.35$ substantial effect on predictor $f^2 = 0.15$ Medium effect $f^2 = 0.02$ Small effect	EO → Performance is 0.016 medium. EO →SMA is 0.417 substantial effect, SMA→Firm’s performance is 0.935 substantial effect
Q ² Predictive relevance	Tells how well the model can predict new observations. $Q^2 > 0$ Indicates predictive relevance to the	The constructs all have value greater than zero ‘0’. Which

	endogenous construct $Q^2 < 0$ no predictive relevance	indicates that the structural model has the potential to predict the endogenous variables.
Variance Accounted For (VAF)	Tells the effect of a mediation analysis on the endogenous construct caused by the exogenous variable. VAF < 20 no mediation. VAF 20 -80% partial mediation VAF ≥ 80 full mediation	VAF ≥ 80 signifying full mediation

Table summary of results for structural model

Hypotheses Testing

Testing the hypothesis of a study is to determine using statistical means whether a declared point of view has the likelihood of being true. The testing of hypotheses is the main aspect of a statistical investigation (Allua and Thompson 2009). The aim of the hypothesis testing is to demonstrate that the research hypothesis has some probable truth. The research questions of this paper were made easier to understand for testing using null (H_0) and alternative (H_a) hypotheses. The aim of this study was to test the null hypothesis to determine if they could be rejected based on the research questions. The following testing procedures were used according to Allua & Thompson 2009). The first step was to create the null research hypotheses, then a significance level was selected, this research used a significance level of 5% ($\alpha = .05$) due to the possibility of type I and II errors. The calculation of the t-statistics was then compared to critical values at the significance level chosen as the critical value tells if the null hypothesis should be rejected. The p-value was also used to test the hypothesis, this was able to tell probability if the researcher was able to ascertain an equal or higher value of the t-statistic results. If the p-value is lower than 0.05 ($p < 0.05$) then the null will be rejected, if the p-value is

greater than 0.05 ($p > 0.05$) then the not will not be accepted or we fail to reject the null. The table below summarizes the decisions for each hypothesis based on the findings.

Table 31*Hypothesis testing results*

<i>Direct relations</i>	Path coefficient	Sample mean	Standard deviation	T statistics	P values	Decision
EO → Firm's Perf	0.094	0.091	0.069	1.368	0.171	Not supported
EO → SMA	0.543	0.554	0.08	6.768	0	Supported
SMA → Firm's Perf	0.723	0.723	0.057	12.673	0	Supported
Environment → SMA	0.348	0.340	0.094	3.689	0	Supported
Organization → SMA	0.363	0.368	0.126	2.874	0.004	Supported
Technology → SMA	0.472	0.466	0.092	5.118	0	Supported
<i>EO → SMA → Perf</i>	<i>0.392</i>	<i>0.400</i>	<i>0.065</i>	<i>6.036</i>	<i>0.000</i>	Supported

T-value > 1.96 (p-value < 0.05)

Summary of Findings

Entrepreneurial orientation and MSMEs performance

H1₀. Entrepreneurial orientation is not positively associated with MSME's performance in Central Jamaica

H1_a. Entrepreneurial orientation is positively associated with MSME's performance in Central Jamaica

Hypothesis 1 evaluates if the performance of MSMEs in central Jamaica is significantly impacted by entrepreneurial orientation. The result show that entrepreneurial orientation do not have a significant relation to MSMEs performance ($\beta=0.094$, $t=1.368$, $p > 0.05$, $Q^2 = 0.016$).

H1_a is therefore not supported as we fail to reject the null. (See table 4.16). The beta or path coefficient of 0.094 indicates that the strength of the relation is weak based on the threshold required to determine significance of relation. The probability value (p-value) is 0.171 which is greater than the significance level of 5% which supports that there is not enough evidence against the null hypothesis that entrepreneurial orientation is not positively associated with MSMEs performance in central Jamaica. Therefore, the alternative hypothesis is supported which means the study fails to reject the null hypothesis. The predictive relevance of entrepreneurial orientation on MSMEs performance is 0.016 which indicates that the predictive nature of this endogenous construct is weak to the exogenous variable of firm's performance. Therefore, the changes in MSMEs performance were not significantly affected by the EO, regardless of the literature that supports EO impacting MSMEs performance positively.

Technology characteristics and social media adoption by MSMEs in central Jamaica.

H2₀ Technology characteristics have no positive influence on social media adoption by MSMEs in central Jamaica.

H2_a Technology characteristics have a positive influence on social media adoption by MSMEs in central Jamaica.

Hypothesis 2 evaluates whether technology impacts significantly social media adoption. The results reveal that technology has a significant relation to social media adoption ($\beta=0.472$, $t=5.118$, $p<0.05$). H2_a is supported, (See table 4.16). The null hypothesis is not accepted as there is more evidence against that hypothesis. The path coefficient $\beta=0.472$ and the t-statistics of 5.118, which indicated that there is significance of relation between technology context and social media adoption in MSMEs located in central Jamaica. This hypothesis looks at the direct relation between technology and social media adoption and p-value of zero '0' indicates that the evidence against the null is strong which means the null hypothesis is not supported. As a result, it is statistically stated that technology context in the TOE frame does significantly impact how social media is adopted in MSMEs during the pandemic period.

Organizational characteristics influence social media adoption by MSMEs in central Jamaica.

H3₀ Organisational characteristics have no positive influence on social media adoption by MSMEs in central Jamaica.

H3_a Organisational characteristics have a positive influence on social media adoption by MSMEs in central Jamaica.

This hypothesis 3 analyses if social media adoption is significantly correlated to organizational characteristics ($\beta=0.363$, $t=2.874$, $p<0.05$). Hence H3_a is accepted. (See table

4.16). The null hypothesis is not accepted as the p-value for this construct is less than the significance level of 0.05 or 5%. The path coefficient (beta) 0.363 and the t-statistic 2.874 both show that there is strength in the relationship between organizational characteristics in the TOE framework and social media adoption. The hypothesis set out to statistically understand the direct relation between the two constructs of organization characteristics and social media adoption. Therefore, the predictive relevance was not calculated for this construct. The statistical findings support the alternative hypothesis that organisation characteristics have a positive influence on how social media is adopted in MSMEs in central Jamaica during the Covid-19 pandemic.

The influence of Environmental characteristics on Social media adoption

H4₀ Environmental characteristics have no positive influence on Social media adoption by MSMEs in central Jamaica.

H4_a Environmental characteristics have a positive influence on Social media adoption by MSMEs in central Jamaica.

Hypothesis 4 looks at whether the environment characteristics impact significantly social media adoption. The findings show that social media adoption does not correlate with environmental variables. ($\beta=0.348$, $t=3.689$, $p<0.05$). Therefore, H4_a is supported. (See table 4.16). The null hypothesis is not accepted as there is more evidence against that hypothesis. The path coefficient $\beta=0.348$ and the t-statistics of 3.689, which indicated that there is significance of relation between environment context and social media adoption in MSMEs located in central Jamaica. This hypothesis looks at the direct relation between technology and social media adoption and p-value of zero '0' indicates that the evidence against the null is strong which means the null hypothesis is not supported. As a result, it is statistically stated that environment

context in the TOE frame does significantly impact how social media is adopted by businesses in the central region when there is a crisis.

Impact of social media usage on the performance of MSMEs in central Jamaica

H5₀ Social media adoption has no positive effect on MSMSs performance in central Jamaica.

H5_a Social media adoption has a positive effect on MSMSs performance in central Jamaica.

Hypothesis 5 assesses whether the performance of MSMEs in Central Jamaica is impacted significantly by the adoption social media. The results show that there is a substantial relationship between MSME's performance and how they embrace the use of social media ($\beta=0.723$, $t=12.673$, $p<0.05$, $Q^2 = 0.417$, $F^2=0.935$, $R^2 = 0.605$). H5_a is accepted and supported. (See table 4.16). The beta score of 0.723, which shows the significance of the relation strength is substantial which indicates that social media adoption has a strong impact on MSMEs performance in central Jamaica during the covid-19 pandemic. The t-statistic of 12.673 should significance statistical relations between the two construct of social media adoption and performance. It highlights that there is a significant deviation from the null hypothesis therefore the predictor variable of social media adoption has a significant impact on the criterion variable which is MSMEs performance. The $F^2=0.935$ value also substantiate that there is substantial predictive relevance of this construct. The R^2 is 0.605 that tells how much change in the endogenous variable is as a result of the exogenous. The value shows that there is moderate change. The $Q^2 = 0.417$ which shows that social media adoption has a substantial level of predictive relevance to the endogenous variable and construct are impacted. Therefore, social

media adoption as a predictor has a strong influence on how firms perform in turbulent environments.

Entrepreneurial orientation and social media adoption.

H6₀: There is no positive relation between entrepreneurial orientation and social media adoption.

H6_a: There is a positive relation between entrepreneurial orientation and social media adoption.

Hypothesis 6 evaluates what is the relation that exists between Social Media and entrepreneurial orientation. The findings demonstrated a substantial relationship between MSMEs performance and social media adoption ($(\beta=0.543, t= 6.768, p<0.05, F^2) = 0.417$). Hence H6 is supported. (See table 4.16). This hypothesis looks at the direct relationship between EO and social media adoption. The path coefficient that shows the degree of strength in the relation found that $\beta=0.543$ which indicates there is moderate degree of strength, however, the t-statistics has 6.768 which indicates significant deviation from the null hypothesis. The p-value is also less than 0.05 which supports with more evidence from the research that go against the null hypothesis. The F^2 of 0.417 demonstrates that there is substantial predictive relevance of this exogenous construct to social media adoption.

The mediating role of social media adoption

H7₀: There is no positive relation between entrepreneurial orientation and social media adoption as a mediating role on MSMEs performance

H7_a: There is a positive relation between entrepreneurial orientation and social media adoption as a mediating role on MSMEs performance

The results demonstrate that social media adoption has a full mediating effect of entrepreneurial orientation. Table 4.16 reveals significant indirect relation between EO, SMA

and Firm performance ($\beta=0.392$, $t=6.036$, $p<0.05$). $VAF = \frac{0.543 \times 0.723}{0.543 \times 0.723 + 0.094} \approx$

$\frac{0.543 \times 0.723}{0.543 \times 0.723 + 0.094} \approx$ 80.6%. The VAF of 80.6% demonstrates that approximately 81% of the effect on MSMEs performance was as a result of social media adoption operating as a conduit for entrepreneurial orientation, suggesting that SMA is a key factor to MSMEs performance.

EVALUATION OF FINDINGS

This study set out to evaluate a model to ascertain how entrepreneurial orientation

This study set out to ascertain how entrepreneurial orientation and social media adoption impacted MSMEs performance during the Covid-19 pandemic in Jamaica. It is vital to grasp the beta coefficient (β), standard error, T-statistic and the P-value in order to interpret the data. Beta is measured on a scale from positive to negative, with a value of 1. It basically indicates the degree to which a change in the independent factors affects the dependent variable. As a result, it shows how each independent variable impacts separately; the dependent variable. The closer the value is to 1 the closer the independent variable is known to be affected by the dependent variable (Peterson et al. 2005).

The standard deviation and standard error are both connected and related which measures the spread or deviation from the data average. As a result, it is the distance between the sample and population means. The T-test or T-Statistics assist the researcher in determining whether the hypothesis should be rejected or accepted. It determines whether the variable that is dependent is actually impacted by the performance of the variables that operate independently. So it is truly how far the data deviates from the null hypotheses that indicates that the observed data has no

statistical significance. Values greater than 1.96 indicate a significant link between hypotheses and should be accepted (Kim, T. K. 2015). The crucial value is 1.96. which is denoted by (n) sample size which is larger than 120 and has probability of 0.05. The P- value indicates the probability value. This is expressed between 0 and 1 and aids in establishing if there is a substantial association between the variables. The null hypotheses would be accepted and the relationship substantial if the P value is less than 0.05 ($p < 0.05$). Therefore, 'P-value is a measure of evidence against the null hypothesis' (Hung, H et al 1997). The confidence intervals used for lower and upper are 95% for this statistical data set and outlines that 95% of the time the data will match which means that we would accept the null hypothesis.

Entrepreneurial orientation and MSMEs performance

Hypothesis 1 evaluates whether the entrepreneurial orientation has a substantial impact on MSMEs' success in Central Jamaica. The result show that entrepreneurial orientation do not have a significant relation to MSMEs performance ($\beta=0.094$, $t=1.368$, $p > 0.05$). Hence, H1 is not accepted. (See table VIII). In this case the beta of 0.094 is indicating that 9.4% change of the MSMEs performance is as a result of entrepreneurial orientation. Which outlines the effect of how entrepreneurial orientation (independent variable) impacts MSME's performance (dependent variable). In this one sample t-test analysis, 1.96 which is the critical value indicates if the hypothesis independent and dependent variable have significant relationship. Here, the value of 1.368 is below 1.96, which means that the null hypothesis is not accepted and hence rejected. This suggests that there is insignificant proof that entrepreneurial attitude of MSMEs in central jamaica impacted how they performed during the covid-19 pandemic. This indicates that there is no evidence that the entrepreneurial attitude of MSMEs in central Jamaica impacted their

success during the Covid-19 period. Additionally, the p-value is above 0.05, which does not support the hypothesis that entrepreneurial orientation impacts MSMEs' performance.

The result for this hypothesis was unexpected as a number of previous studies (Nguyen et al., 2021; Presutti & Odorici 2019; Karami and Tang 2019 Thanons et al 2017) showed a positive relation between EO and SMEs performance. It is worth noting that literature has shown that EO is the willingness for MSMEs to innovate and take risks when there is the opportunity (Lumpkin & Dess 1996; Wiklund and Shepherd 2005). Additionally, the resource based approach has been applied in numerous entrepreneurship studies but it deals with more large corporations whereas entrepreneurship focuses on action to establish businesses (Kellermn et al 2016; CBS SMG and Foss 2011). However, it should be highlighted that EO is based on resource-intensive strategies which if not provided can impact and impede the EO (Jiang et al 2018). This could be one of the possible explanations for this result as most MSMEs in central Jamaica struggle to ascertain the required resources needed. The result could also be due to the size of the population sample as 154 MSMEs were selected which could be considered relatively small sample size. Lumpkin and Dess 1996 also state in their study, that EO may not always influence firms' performance. This study used three dimensions of EO - innovation, risk and proactiveness (Miller 1983) and as outlined by Knight (1997); Thomas and Mueller (2000) the dimensions of EO may differ according to countries which may be one reason why there is no significant relationship for this study. Also, there are other studies that have used five dimensions of EO which may have also affected the findings of this study.

Over the past decades there has been discussion about the connection that exists between entrepreneurial orientation and business performance. It is being hypothesised in entrepreneurial literature that a positive relationship between profitability and growth exist due to the inclination

of firms to engage in high level of risk taking, proactiveness and innovativeness (Covin and Slevin 1991; Soininen et al 2011; Wiklund and shepherd 2003). Whilst there are varying views of the relationship, there are studies that claim firms perform at a higher stand when entrepreneurial orientation is heavily involved in the processes of the businesses, and also perform better than those businesses that fail to engage entrepreneurial orientation in their practice (Kreiser and Davis 2010; Hult et al 2004). On the other hand, there are studies that have reported a non-significant correlation between entrepreneurial orientation and performance (Tang and Koveos 2004). The reporting of entrepreneurial orientation and performance tend to possess many variations, as the methodology differences play a critical role in how the findings are reported. The scales used for entrepreneurial orientation varies among researchers and hence different interpretation and reporting. (Tange et al 2008). Therefore, the literature claims that the Eo and performance is not linear and be affected by various aspects such as moderator and or mediating variables (Venkatraman 1989).

This study utilised social media adoption as a mediator for entrepreneurial orientation and how it impacts performance and also investigated the direct relation between entrepreneurial orientation and firm's performance. If moderating variables should be considered when investigating EO relation then the organisational structure is essential in determining the strength of the relationship. Covin and Slevin (1988) mechanistic organic continuum outlines that firms tend to organise themselves into main structures. The organic structure deals with decentralisation where knowledge is shared equally within the network whereas, mechanistic structures are more formal and centralised. The MSMEs that were a part of the study both demonstrated that they operated with centralised and decentralised systems based on the nature of the operations. From the literature it is observed that in order for entrepreneurial orientation to

improve performance then they should be aligned more to low levels of formalisation and decentralisation (Naman and Slevin 1993; Kraus et al 2011; Covin and Slevin 1991). However, in this study no moderating variable was used therefore this area was not investigated to determine how the moderators impact performance.

The mediating effects model in this research, has social media adoption as the mediating variable and entrepreneurial orientation as the antecedent variable with MSMEs performance as the dependent variable. Therefore, the relation between entrepreneurial orientation and MSMEs performance would be influenced by social media adoption. On the other hand, an independent effect model looks at how the environment impacts how businesses perform. This involves access to resources, and opportunities that are presented to the firms (Covin and Slevin 1988). In this study firms had access to broadband internet and devices that did not cost the businesses extra burdens. As a result, the environment in which the MSMEs were forced to operate during the pandemic would have impacted their performance. Porter (1985) posits that the industry in which firms operate affects the performance.

Wiklund (1999) argued that entrepreneurial orientation impact on performance has links to the environmental context in which the firm operates. It is suggested that multivariate structure of studying entrepreneurial orientation may be better in order to unearth a deeper understanding of how EO and firm's performance works than bivariate models (Wiklund and Shepherd 2005). As a result, other determinants could be influencing the level of performance directly or indirectly other than entrepreneurial orientation. Therefore, this study found there is no direct relationship between EO and performance which can be assumed that the type, size and even the culture these MSMEs operate could be what impacts how EO affects performance (Rauch et al 2006). Most MSMEs are businesses that face resources even though there is help

from some agencies but this sector is heavily affected by the lack of resources. The three dimensions used in this study are risk-taking, proactiveness and innovation and due to the constraints on resources that most of the MSMEs face, some find it challenging to allocate much of their limited resources to impact performance resulting in lower performance levels (Covin and Slevin 1991). Therefore, from this study it could be agreed that EO does not impact MSEMs performance in crisis situations as it does when the environment is stable.

Technology characteristics and social media adoption by MSMEs in central Jamaica.

Here the hypothesis assesses whether technology has a substantial impact on social media adoption. The results show technology to possess substantial relationship with social media adoption ($\beta=0.472$, $t=5.118$, $p<0.05$). Hence, H2 is supported. (See table VIII). To test this hypothesis, 6 reflective indicators were used to form the latent variable of the Technology characteristics which created the formative construct of the model (Figure 2). The six (6) indicators had factor loadings higher than 0.70. And covered the three areas under the technology context: relative advantage, complexity and compatibility. The beta of 0.472 represents 47.2 % change of the technology as an independent variable in relation to social media adoption. Therefore, if the value of this independent variable increases, then the effect change on the dependent variable would also increase. The technology characteristics and social media adoption are significantly correlated as can be seen by the t-value of 5.118 and $p < 0.05$. The adoption of social media and technology characteristics are significantly correlated, as indicated by the t-value of 5.118 and $p \leq 0.05$.

The result is expected as numerous research proved that technology has a substantial relationship to social media adoption. Relative advantage, complexity and compatibility have all

been supported by studies done by Hoppe et al. 2001; Tornatzky and Klein 1982, Holak and lehmman 1990. The findings suggest that innovation within MSMEs supersedes the existing technologies and therefore it is more likely for firms to adopt technology and this can impact performance. As a result, employing social media can aid MSMEs to perform in areas such as sales, increase market shares and customer service. Compatibility as a subset of technology suggests that MSMEs will feel better using social media in their businesses if they feel that it is compatible with their business operations in processes and procedures. This due to the fact that when existing systems and emerging technologies are compatible for a business then social media adoption becomes easier (Nguyen et al 2020). Complexity as a subset of the technology concept deals with the degree of difficulties technology innovations pose (Chong and Olesen 2017). As a result MSMEs in central Jamaica would be more inclined towards accepting social media if these businesses possess the required experience and are confident in their ability to carry out tasks effectively in their operations. These findings are consistent to studies done by Porter (2012). This is supported in the literature review which cites a study done by Albar and Hoque (2019) that demonstrates the beneficial correlation between social media adoption and technology.

Technology characteristic in the TOE framework impacts on developing a more coherent perception of businesses adopting social media. On the premise that the technological context of compatibility, relative advantages, and complexity within firms drives the adoption of social media. MSMEs in central Jamaica could sell their products using online platforms by creating websites rather than physical locations as pandemics can impact on movement of customers. The Chamber of Commerce in the three parishes in central Jamaica could also promote social media usage as this is a fast way of getting service. The significance of this result also demonstrates that

MSMEs are more prone to using social media in their operations if it fits with their system and they can determine the benefits..

Additionally, MSMEs in central Jamaica view relative advantage as a component of the technology characteristic to be essential as this is where the perception that the innovative technology would provide more than what they were using at the time of Covid 19 would give them an advantage (Roger 2003). From the survey 68% of the MSMEs that participated in the research spent 0-25% of their budget on social media platforms and a larger percentage used facebook and whatsapp as the mode of contact with clients and for promotion and marketing. Given the substantial relation of Technology and social media adoption, it can be concluded that owners and managers were able to weigh the cost and benefits of using social media during the covid-19 pandemic which result in most of the businesses employing some form of social media platform to remain relevant and to survive the covid 19 crisis. Even though the infrastructure is still a struggle in Jamaica most of the MSMEs were able to see free platforms such as whatsapp and face to stay connected with customers. This helped with cost cutting especially during a time of uncertainties, as technologies that provide some reduction in cost are seen as advantageous (Zhang et al 2011). The findings of this research and this hypothesis that is supported also demonstrate that any platform or technology that enhances performance and innovation which in eventually helps with processes and procedures creates that relative advantage (Chen et al 2012). This was what the MSMEs in central Jamaica did to ensure that they remain viable during the covid 19 period.

MSMEs during the covid-19 pandemic showed that there is a positive correlation between complexity and technology implementation. According to Tornatzky and Klein (1982) complexity as a sub-component of technology can be a deterrent to how businesses adopt

technology. Based on the research participants did not consider social media as a complex form of new technologies. Therefore, the results that show significant relation between technology and social media adoption demonstrates that MSMEs were willing and capable of adopting social media as it was not seen or perceived as something that is complex. MSMEs in central Jamaica will view social media adoption as an easy process and if proper training is provided then owners and managers will develop greater confidence in adopting social media to enhance business processes.

According to Agarwal and Prasad (1997) compatibility can be enhanced if training is done for employees of how to use technology. Even though, compatibility could also affect how technology is implemented and adopted in a business (Chong and Olesen 2017). The alignment of technology is also based on experience of the user and prior skills. This study demonstrates technology is not complicated if the right social media platforms are selected for the right type of MSMEs and where required the right type of training. In cases where businesses are left with little to know choices, then MSMEs will do what needs to be done to ready for the adoption of technology. As a result, it can be deduced that social media can be adopted in MSMEs without major adjustments to their infrastructure as most of the owners and managers stated that whatsapp and facebook are the two main platforms used through the covid 19 pandemic and those they are comfortable using.

Organizational characteristics influence social media adoption by MSMEs in central Jamaica.

This hypothesis evaluates, if a substantial relationship between organization and social media adoption. The results reveal that organization construct has a significant relation to social

media adoption ($\beta=0.363$, $t=2.874$, $p<0.05$). Therefore, H3 is accepted. (See table VIII). This construct used 5 indicators to test the hypothesis. The Beta of 0.363 shows that there is a 36.3% of change that organizational characteristics have on how social media adoption was done in the MSMEs during the covid-19 pandemic. For this hypothesis the value of the t-statistic is 2.874 that is greater than 1.96 which also provides some proof to support the hypothesis that organisational characteristics do influence the social media adoption within MSMEs during the covid -19 pandemic. The p-value for this hypothesis is also lower than 0.05 which supports the hypothesis to be true. In the literature review it was expected that organisational characteristics to have a significant relationship with social media adoption.

The covid-19 pandemic affected a number of businesses (MSMEs) in central Jamaica, as businesses were told to close due to lock downs and social distancing. The organisation context deals with employees skills, cost perception and top management support. A study carried out by Ahmed et al (2019) demonstrated that a positive relation exists between management support and social media adoption. Top management are the ones who can arrange and make it possible for social media adoption because they can influence employees of vision and resources and this was well needed in the Covid-19 period. This is aligned to Matikit et al (2018) study. The strategic decision of any organisation is the responsibility of the top management as they aid with the vision of the business. When asked in the survey about top management support most of the respondents indicated that top management support has been a major contributor of how social media was adopted in the organisation. The entrepreneurs, directors and leaders of these MSEs are the ones who should show the initiative as to how social media is adopted. These MSMEs do have strategic directions they want to go and the leaders are the ones to see this happen. The alignment of social media adoption and operational direction is the goal of the

leaders of these organisations (Thong 1991; Chang and Change 2010). It is essential to seek top management support as they are the ones who approve the financial cost when and if firms want to implement social media. It was of utmost importance for the MSMEs in central Jamaica to be provided with the resources needed to navigate the turbulent environment of the pandemic. It is safe to say that in traditional businesses and prior to the pandemic, most businesses have limited resources allocated. Therefore, it is top management that supports implementation of new technology and social media platforms (Prood 2000).

Ngai et al (2015) highlighted that it is through the support of top management that employees may improve their acceptance of change. They posit that employees are more likely to accept new technologies and social media if these are supported by top management. In the research the results suggest that MSMEs were able to implement social media and owners and entrepreneurs did embrace the use of social media. In the hierarchical set up if top management are willing to accept the changes then employees normally would accept the same. Investing in social media platforms came as a risk for numerous MSMEs as it is always challenging for organisations within the category of MSMEs to spend on resources during a crisis. However, some of the entrepreneurs and businesses were able to use platforms already at their disposal and where necessary add on a few other platforms to ensure competitiveness in the market. Due to the restrictions of the movement most businesses were forced to alter their operations which went against the traditional operational format. These businesses were compelled to turn to remote work. His remote mode involved changing the supervision method and coordination of virtual work (Tokarchuk et 2021). In the Jamaican context of MSMEs most of these establishments are family owned and access to information can be challenging as the culture of these businesses is to be private. As a result, the idea of losing control when using social media

for employees could discourage some of the entrepreneurs from supporting more use of social media in the business (Hopp et al 2018). This could be as a result of lack of trust and top management may rather incremental use of technology and social media adoption instead of a drastic change that may affect their business (Assink 2006). In this research, from data collected, it suggests that MSMEs were confident in how they adopted social media due to the trust they have in employees. It could also be surmised that due to the fear factor of unpredictability that some MSMEs decided to use the platforms as there were limited alternatives.

The experience of top management and owners' support could also impact on how decisions were made during the pandemic based on their response to the crisis (Chan et al 2019). Research has shown that managers' willingness to accept and venture into radical innovative changes may diminish due to the level of experience (You et al 2020). This could be due to the challenge of unlearning habits and to embrace new business concepts (Hopp et al 2018). In this research the beta of 36.3% could be as a result of the reluctance of some of the MSMEs' owners and top management. Whilst this score is acceptable it suggests that there are still some MSMEs that didn't feel that their top management personnel were readily accepting of the social media adoption. It is the role and responsibility of top management and owners to promote the use of social media in business operations. All the MSMEs in this research had an operation time of 2 or more years therefore new businesses may have seen it risky to invest in social media platforms. Additionally, younger entrepreneurs who are more conversant of the social media platforms were more enthused about using technology to drive their businesses during the covid-19 pandemic period.

Cost as a predictor of organisation is considered as one of the barriers to social media adoption (Sugandini et al 2020). An explanation for the outcome could be that throughout the

pandemic, the Jamaican government provided. One possible reason for the result is that during the covid 19 pandemic the government of Jamaica gave the 'Covid small business grant' where MSMEs could get help that could have impacted on how they adopted social media in their businesses.. It is also that some platforms are free and businesses can use them to help with their business transactions. Even though a number of studies presented findings that suggest that the perception of high cost for social media adoption leads to hesitancy by businesses (Oliveira et al 2014; Roger 2003). This study shows that social media adoption does not need to be expensive for it to be implemented. It is also important to highlight that top management are more likely to support social media adoption when they understand the platforms and how they can impact on the business. The literature shows that managers' support is a significant influence on how social media is adopted in MSMEs (Hoque et al 2015). The findings of this study was also added to Newbury et al 2014, as they found that the support of owners and managers influences how social media is adopted.

With regards to the employees skills, literature by Bharati and Chaudhury (2015) supports the finding that employees' skills of how to deal with complex technology do encourage the use of social media. This result for the study could also be because of covid 19 and employees had little choice but to adapt to the changes that were happening in the country in order to stay relevant and keep their jobs. Employees skills and expertise are essential for adoption of technology in the organisation. The results also show that 35% of MSMEs used facebook and 34% used whatsapp during the covid-19 pandemic. This result shows that organisation context is essential to social media adoption and in the drive to maintain competitiveness and their business, in addition the findings underscore that employees were able

to adapt to the realities of the Covid-19 pandemic and used there expose of social media platforms for their jobs which impact how social media was adopted.

Organisational innovativeness in study done by Ahmad (2021) posits that the combination of organisational innovativeness and social media adoption do affect how SMEs perform. This can be related to MSMEs as well as the combination of organisation and social media impacts how firms are able to adopt and change their marketing strategies to the changes in the environment.

The influence of Environmental characteristics on Social media adoption

Hypothesis 4 evaluates whether the environment characteristics impact the use of social media. The result show that environment characteristics have substantial relation on social media usage ($\beta=0.348$, $t=3.689$, $p<0.05$). Figure 3 and table VIII show that the beta of 0.348 accounts for 34.8% of the change in Environmental factors that influence how social media is adopted. Therefore, we can accept the notion that environmental factors have a beneficial impact on social media uptake during the Covid-19 pandemic. The T-statistic value is greater than 1.96, and the P-value is lower than 0.05, so supporting the hypothesis.

Therefore we can accept the hypothesis that environmental characteristics positively impact the adoption of social media during the covid-19 pandemic. The hypothesis is further supported by the T-statistic value, which is above 1.96 and the P- value is below 0.05.

The findings in the paper are consistent with Albar and Hoque 2019; Lin 2014. It shows that environmental factors are positively related as to how social media adoption takes place within an organisation. This suggests that government support, competitive advantage and

environmental uncertainty are critical for MSMEs in central Jamaica when adopting social media in their businesses. According to Salamzadeh (2020) these sub-factors of the environmental context can impact the business sales volume and customer base through the increased level of competitive advantage. The findings also support the TOE model which was used by Effendi et al (2020) in a study about social media adoption. However, studies such as Salamazadeh and Tajpour (2021) reveal different findings for environmental factors. This could be as a result of that in their study legal issues were one of the sub-factors researched, here they outlined that legal issues are major concerns when considering social media adoption. In this study however, sub factors such as competitive advantage and environmental uncertainty could have been the reason for MSMEs to adopt social media as the covid-19 pandemic impacted on how businesses operated and also how consumers shop. Most businesses had to turn to online platforms as the restriction of movement by the government forced MSMEs to adopt these platforms in order to survive. The government of Jamaica gave support to MSMEs through the Care Programme which was designed to give grants to MSMEs which could have contributed to how these businesses were able to incorporate the use of social media platforms during the Covid-19. The government of Jamaica injected 10billion USD to support MSMEs (Caribbeannews 2020) and this is aligned to Tornatzky and Fleischer (1990) who believe that government support should be through regulatory assistance, financial support and tax relief. According to findings by Hameed et al (2012), government support involves policies and framework to promote the use of social media. This is aligned to the findings of this research where in Jamaica, government support in the use of online platforms to aid with marketing and communication were crucial points. The Jamaican MSME entrepreneurship policy (2018), in objective 3.6 outlined the need for systems to be implemented to aid the development of

communication networks. The government of Jamaica has embarked on information communication and technology (ICT) infrastructure according to the country's 2030 vision. This is due to more investment and opportunities in the Business Process Outsourcing which is also creating more ICT support for MSMEs.

Governments that support the use of high quality internet and broadband access and minimise the divide between rural and urban areas normally create an environment that promotes social media use (Qureshi 2014). As a result the government of Jamaica has embarked on improving the access of broadband and internet access as the improvement of digital infrastructure is needed in order for MSMEs to better adopt social media usage. As the results of this study indicates a positive relationship of organisation characteristic to social media adoption can be due to the government support of improving the infrastructure. The support of the government is also vital in policy frameworks and regulations that support social media usages. According to Bertot et al (2012) the policies that governments implement in areas such as data protection and privacy impacts how digital platforms are seen and used and thus impacts social media usage. The Jamaican national ST-I policy (2022) (science technology and Innovation) highlights the policies and frame of Information Communication Technology (ICT) usage which is encouraging for MSMEs as they would feel more secure in how social media adoption is seen in their community as business entities. Cyber crime and security issues have also been a top item agenda issue which has developed greater trust in how social media is perceived and could also be the contributing reason why the significant relationship is seen in this research. The Ministry of Science and Technology Jamaica reported in October 2022 in the The Jamaica Gleaner that a licence was granted to Starlink, Elon Musk's company to provide internet connectivity throughout the country of Jamaica. The government reported that this is to provide

better services to businesses and customers across the island and that it is a thrust of the government's objective of internet connectivity transformation. This was impactful especially during a period when MSMEs were affected by the Covid-19 pandemic.

Digital literacy and infrastructure has been a key initiative for Jamaica government and one programme the government has implemented through the agencies of the Ministry of Industry, Investment and Commerce (MIIC) and the Development Bank of Jamaica is the 'Go Digital' programme where the main aim is to aid MSME with programmes that can impact entrepreneurs digital literacy and to assist with financial and technical support. The government is working to embark on this digital transformation project which impacts on how social media is adopted in MSMEs. This is supported by study done by Van Deursen and Dijk (2009) who posit that the support of government is essential in promoting and minimising the barriers of social media adoption. And this is aligned to the results of this study.

The government of Jamaica through the Ministry of Finance and Public services in collaboration with the Development Bank Of Jamaica (DBJ) provided \$3 billion of loans and grants to MSMEs that were affected by the Covid-19 pandemic (Jamaica Information Service 2021). The policy to aid finance these MSMEs were as a result of the pandemic and the government recognised that the MSMEs are the backbone of the Jamaican economy. The minister of finance declared that the proceeds can be used by these businesses to drive the transformation of their digital platforms and to acquire new softwares where necessary. Shahid and Qureshi (2022) postulated that governments that promote and support digital transformation are the countries with the highest level of social media usage, which is an indicator that governmental support can impact MSMEs not just locally but internationally as well.

Competitive advantage as a component of organisational characteristic is important to aid in determining the success of a company. According to Porter's generic strategies (1985) firms can have advantage based on the differentiation, cost leadership and cost focus. It is therefore the role of the firm to develop and maintain an approach that gives the competitive advantage over other firms. The extent to which companies sense pressure from competitors in the industry is considered as competitive pressure according to Zhu and Kraemer (2005). The findings of the research indicates that MSMEs that were to differentiate themselves during the pandemic through the use of social media were able to separate themselves for the competition. This is aligned to studies done by Kaplan and Haenlein (2010) that the businesses that utilise social media are the ones that develop stronger customer retention and brand visibility and they normally perform better than the organisations that are without social media. Social media as a resource can be considered in line with the resource based view theory that sees a business possessing competitive advantage from resources that are inimitable and rare. Therefore, the results of this study that shows a significant relationship between social media usage and organisational characteristics indicates that MSMEs in central Jamaica utilised social media as a way of creating competitive advantage. This was as a result of the communication channels that were enhanced through platforms such as whatsapp groups.

Lianetal (2014) believes that through competitive pressure firms are motivated to adopt technology as away of staying ahead of the competition. The covid- 19 pandemic impacted MSMEs in central Jamaica where based on the data collected it can be surmised that these businesses needed to be competitive. Competitive pressure has been researched and known as an effective motivator for companies (Lin and Lin 2008). It is posited that adoption social media is

helpful in how companies position and reposition themselves when operating in a competitive environment.

Environmental uncertainty also impacted on the relationship that exists between environmental context and social media adoption. Chong and Olesen (2017) postulate that through uncertainty businesses are impacted to adopt social media and this has impacted on how the MSMEs in Central Jamaica impacted the use of social media during the covid-19 pandemic. The participants of the survey feel that when there is uncertainty is the environment such as the covid-19 pandemic, it is important for MSMEs to utilise technology and social media as a way of connecting with customers. The findings indicate that MSMEs are more receptive to social media adoption as it helps with agility. The pandemic created a turbulent environment for these businesses to operate and hence being able to quickly adjust to the changing tides of the market give rise to social media platforms as it helps with communication and connectivity with the clients. The proactive nurture of MSMEs in central Jamaica was also evident based on how these businesses were able to maintain contact with customers. According to Zighan et al (2021) proactive behaviour is the act of taking the initiative that alters the outcome of events.

Social media adoption was also essential during the Covid- 19 as MSMEs were able to inform the various stakeholders of what was happening in the marketplace. There were instances where supply chain was affected due to the lock and no movement restrictions and through the social media platform, MSMEs were able respond early and act in their interest as information was passed on in a timely manner. MSMEs were able to receive feedback from customers that helped in how decisions were made given the uncertainties that were in the market. Through this proactive nature some MSMEs were able to develop better trust with customers as they were able to easily and quickly disseminate information during the coid 19 lockdown.

Impact of social media usage on the performance of MSMEs in central Jamaica

Hypothesis 5 examines how social media use has substantially impacted MSMEs' performance in Central Jamaica. The study found a strong correlation ($\beta=0.723$, $t=12.673$, $p<0.05$). Hence, H5 is supported. (See Figure 3 and Table VII. The beta value of 0.723 indicates that social media adoption during the covid 19 pandemic in central Jamaica was responsible for 72.3% of the change in MSMEs. This demonstrates the impact of the independent variable on a firm's performance. The effect of each digital technology adoption predictor and the way in which it affects social media is exhibited by the r^2 -square of 0.294. The t-statistic of 12.673 and the p value which is less than '0.05' also back up the claim that firm's performance and social media in central Jamaica are significantly correlated.

The findings of this paper are consistent with that of other papers (Qalati et al 2021 Apigian et al 2005; Shuai & Wu 2011; Stone et al 2007 and, Yasa et al 2020,), which demonstrated a strong correlation between MSMEs' success and its use of social media. MSMEs in central Jamaica adopted social media during covid-19 as this is a way where they were able to maintain some level of performance where the use of the social media helps with market reach and accessibility. The covid 19 pandemic had also changed consumer behaviour and how MSMEs in central Jamaica use the platforms to cater to their customers by implementing new operations time and how services were delivered. The adoption of social media also helped with customer engagement and relationships as lockdowns and social distance created various problems. It is through social media that some MSMEs were able to listen to feedback from customers and then be able to adjust processes and procedures to meet the needs

of customers. According to the literature, employees may be resistant to social media platforms if they are to learn from scratch (Sugandini et al 2020). This is evident in Admad et al (2019) who found no significant relationship.

According to the Resource Based View hypothesis (RBV), a firm's competitiveness is determined by its resources and capacity to use those resources to generate internal strengths (Barney 1991). The results are consistent with this idea since social media is viewed as a resource by MSMEs and was used to assist clients during the Covid-19 outbreak, which influenced how the firms performed. The use of social media allowed MSMEs to reach more customers and to engage with these customers which all impacted the performance of the businesses. The research also indicates that the use of social media is relatively easy and it does not change and/or alter the lives of users in marked ways when implementing or employees become aware of how to use the various platforms.

The literature and the findings of this research also strengthen previous research that indicate that social media is useful to entrepreneurs when working towards achieving business objectives. The positive relation between social media and firm performance could be as a result of how social media is viewed by entrepreneurs. The use of social media can be cost effective as the platforms are relatively low in cost and the benefits are numerous. Some benefits a founded from the research demonstrates that interactivity is easy to use for most of the MSMEs in central Jamaica. Additionally, the use of social media does aid the business in how they are seen in the market place therefore brand visibility was found to be significant for the entrepreneurs. The usability of the various platforms and also the features have aided MSMEs and entrepreneurs to maintain and in some cases increase the volume of sales during the covid-19 pandemic. Building customer relationships was also evident in this study where entrepreneurs highlighted that due to

restriction in movement by the government they were able to cultivate positive and strong relationships with customers. It is through the social media usage that entrepreneurs of these MSMEs were able to develop systems and procedures where knowledge about customers in terms of their needs was harnessed through the various platforms employed by these businesses. The research also shows that entrepreneurial orientation was also impacted positively as new methods were developed to serve the clients due to the restraint imposed by the government that forced MSMEs to find new and better ways of operating.

The finding of this study is also aligned with studies done by Procter and Shemi 2018; Brink 2017; Drummond et al 2018, where social media is known to be used by entrepreneurs around the world. From the previous studies highlighted, the findings provide information about brand awareness where social media is used as a method of supporting and reinforcing the brand image and awareness of a business. These studies also support the claim that entrepreneurs in MSMEs in central Jamaica were able to utilise the influence of social media to support their brand. Customer service was vital during the covid-19 period as business activities slowed down due to logistics and supply chain issues (Brink 2017). As a result, it was evident from the questionnaire that the MSMEs in central Jamaica were able to implement social media platforms to improve and enhance the level of customer service which impacted on the business's overall performance. This aided the retention of customers during the covid 19 and contributed to the finding that there is a significant relation between social media usage and firm performance. From the research it was observed that not much marketing was done by some of the MSMEs however, the implementation of the platforms used such as whatsapp, and facebook were very instrumental in how marketing and promotion were conducted by these businesses. This research investigated if sales were impacted by the social media platforms and the findings demonstrated

that social media did impact the sales level of these MSMEs. According to Shemi and Proctor (2018) they posited that SMEs became more aware of the importance of social media due to the impact it has on developing trust of stakeholders and customers.

Due to the advancement of technology in the world, businesses have been utilising varying technology to enhance communication and marketing in a thrust to transform brand image through different communication strategies that has shown a move away from the traditional way of brand marketing (Kao et al 2016; Gavino et al 2019). The impact of this technology advancement has propelled social media platforms to be equipped with features where feedback can be provided beyond one's physical geographical location. As a result, MSMEs are using social media as away to garner data about patterns in consumer spending, competitors who are in the same sector and industry and also for marketing campaigns. It is also evident that this change of technology and social media usage pattern has led to more improved performance of MSMEs. It is through these networks that social media impacts the landscape of the MSMEs and thus impacts the overall performance of these businesses. Sipior et al (2014) postulate that greater awareness of products offered by businesses are as a result of social media. MSMEs in central Jamaica that employed social media during the covid-19 pandemic were able to observe the volume of sales directly from the platforms and developed a better idea of where the sales are heaviest.

Ferreira et al (2019) in their study highlighted how social media adoption impacts the performance of businesses through innovation. It aligns to this study that shows that MSMEs were able to adopt social media that impacted how they were able to survive during the covid 19. This innovation has led to better customer engagement and consistent revenue streams even though most businesses revenue and profit were affected. The innovativeness of social media

adoption also aided the competitive nature of these MSMEs. It also indicates that MSMEs that used social media in marketing were able to implement more creative strategies and this adds to the Stojanovic-Aleksic (2019) that found innovation to be impactful on SMEs creativity when social media is adopted. MSMEs that became creative through the use of social media were able to improve their output in some instances. According to Oke & Munshi (2015) postulate that innovation through social media adoption impacts export performance of SMEs. The results suggest that MSMEs that embraced the use of social media during the covid-19 pandemic were better able overall to improve on the level of customer engagement that resulted in these businesses being able to perform and meet objectives during the pandemic. This is supported by Vial (2014) who investigated social media integration into marketing strategies and found that it impacted the business performance in a positive way.

Entrepreneurial orientation and social media adoption.

The sixth hypothesis assesses the potential correlation between an entrepreneurial mindset and the usage of social media. Hypothesis 6 evaluates whether there is a possible correlation between entrepreneurial attitude and social media usage in these MSMEs. The findings are indicative that social media adoption has a substantial relation to MSMEs performance ($\beta=0.543$, $t= 6.768$, $p<0.05$). Hence H6 is supported. (See table VIII.) This hypothesis has a beta value of 0.543, which indicates that 54.3% of the change in social media adoption would be as a result of entrepreneurial orientation. The t-statistic is above 1.96, which suggests that the use of social media and entrepreneurial orientation are significantly correlated.

There are other studies that corroborate this concept, with EO having a major impact on the adoption of social media in MSMEs (Valos et al 2015; Dutot & Bergeron 2016). EO is

essentially what connects MSMEs to the outside world (Valos et al 2015), which proved difficult during the covid-19 pandemic due to lockdowns. Eo is a formative second-order concept with reflecting indicators that address three elements of EO (innovation, risk, and proactiveness).

Risk taking has significant impact as a mediator to social media adoption during the covid -19 pandemic. It mediates the approaches of how MSMEs survived. Additionally, the findings highlight the propensity of risk-taking and how the MSMEs in central Jamaica were able to cope with the measures that were implemented. The research paper discovered that risk taking was necessary during the covid-19 pandemic as movement restriction policies were implemented, hence it led to various and different strategies by the MSMEs. These businesses had to modify a number of their processes such as marketing, distribution channel and supply chain in order to survive. According to Smallbone et al (2012), businesses may adjust cost spending measures when there is a crisis situation affecting the firm. This supports the claim that some MSMEs were compelled to adjust costs in order to survive the pandemic which created a risk of cutting back on the business's capacity. As a result, it was essential for business owners and senior managers to develop a better understanding of risks and to learn ways of dealing with crises.

The Covid-19 pandemic also triggered the proactive nature of the MSMEs to survive. Some of the MSMEs in central Jamaica employed strategies of proactivity to handle the measures and the reality of the time, and by extension were able to implement and exploit the opportunities that the covid-19 presented. Some of these businesses were flexible as they are small in nature and know their customers therefore structure and processes were easily adopted to deal with the crisis. The businesses established agility and showed their flexibility in dealing

with unanticipated impacts of the pandemic and the measures imposed by the government during the time of the pandemic.

The findings of this paper indicates that innovation positively mediates social media adoption during the covid 19 pandemic. The crisis contributed to the level of innovativeness that the MSMEs used in order to maintain viability. Some of the MSMEs employed strategic innovativeness to respond to the measures that were implemented by the government. As there was restriction in movement these businesses were able to develop new ways of meeting the needs of customers regardless of the challenges. Products were modified and altered and delivered through various ways of channels in order to maintain their presence in the market. Some MSMEs turned to platforms such as whatsapp, instagram and youtube to keep customers informed. In central Jamaica working hours were cut and curfew implemented but the smaller food services were able to offer delivery in some areas but most of the activities were take outs.

MSMEs that employ EO as being innovative are more susceptible to adopting new technology and MSMEs that are more likely to take risks are likely to embrace social media as a way of enhancing performance. Being proactive is where businesses are likely to connect with customers about products and handle customer service, these underscore the significance of this research. MSMEs that engage in EO are likely to accept social media as it connects the business to external environments and factors. This result is also consistent with Dutot and Bergeron (2016). Therefore, it is expected that MSMEs that engage in EO can benefit from social media adoption which can enhance performance.

Innovation in SMEs was investigated by Zhan and Zhu in 2021, where they highlighted the impact of innovation on performance of SMEs. This can also be generalised to an extent to

MSMEs where innovation can bolster performance of MSMEs as well. The study revealed how social media can be used to aid teamwork and to solve problems. Additional studies such as Li et al 2019 showed that social media marketing impacted revenue growth and market share. This is evident in this study where it can be concluded that social media did aid marketing which results in how the MSMEs were able to survive the turbulent times of covid 19. Admed et al 2019 investigated in their study the ways how social media influence SMEs to become innovative. As a result social media was revealed as the process to stimulate innovation, and creativity which was able to produce competitiveness in the market. In the Covid-19 period marketing was considered as essential but was not very high for some businesses as the restrictions rules by the government forced the change in how businesses operations were done. It became evident that using social media as a way to promote the altered services was an important factor in how businesses were able to keep clients informed about the changes and how the services were being offered. As a result the social media adoption contributed greatly to how customers were engaged and retained though the crisis period. This process was also cheap and easy to implement as most of the MSMEs were already using social media platforms but not with that level of innovation. Yu and Ramanathan (2016) showed in their study that social media was integral in how SMEs performed when the organisational innovativeness was implemented to ascertain the relationship between marketing done with social media and the performance.

In a similar study done by Ferreira et al (2019), innovativeness was one of the most important aspects of using social media to impact firm performance. They surmised that performance such as customer retention and engagement, increased revenue and advantage in terms of competitiveness in the market were as a result of the level of innovation that was used with social media adoption. Marketing was one area that MSMEs were keen about during the

covid-19 as the restrictions led to the need for this. For the survey participants responded that they used social media for marketing as it was cheaper than other marketing tools and relatively easier to implement as most businesses had devices and were using technology to an extent. This aided these MSMEs in survival even though some revenue and activities were reduced. This point was supported by research done by Stojanovic-Aleksic (2019) that found making using social media do have an impact on financial performance.

The results therefore indicates that firms that are entrepreneurial in there operations are more likely to use innovation, risk-taking measures and proactiveness to adopt social media as social media is considered as a resource that can give the competitive edge over other businesses.

Mediating effective of Social media adoption

H7: There is a positive relation between entrepreneurial orientation and social media adoption as a mediating role on MSMEs performance.

Table 4.17

Mediating effect

<i>Indirect effect</i>	<i>Path coefficient</i>	<i>Sample mean</i>	<i>Standard deviation</i>	<i>T statistic</i>	<i>P value</i>	<i>Decision</i>
<i>EO →Social Media Adoption→Firm's Perf</i>	0.392	0.400	0.065	6.036	0.000	Supported

The findings of the research shows that there is complete mediation between entrepreneurial orientation and social media adoption. The direct relation between entrepreneurial orientation and MSMEs performance was rejected which confirmed that full mediation effect was observed due to the substantial direct relation between entrepreneurial orientation and social media and social media adoption and MSMEs performance (Henseler et al 2009). According to Qalati (2021) very few studies have been done on the mediating effect of social media adoption on entrepreneurial orientation. This study confirms that entrepreneurial orientation in the era works well with other elements of business operations. The study enhances the research findings of Yin et al 2021; Barney 2001, who found that entrepreneurial mindset is as a component of Resource based view theory that demonstrates the firm's performance is impact based on how they use the resources available. A few research studies such as Wiwobo et al 2020 Dirgijatmo et al 2019; Ju et al 2018 and past researchers such as Admed et al 2014, all confirm that there is an intervening effect between entrepreneurial orientation and performance. More specifically, recent research has shown that social media usage has a mediating effect on entrepreneurial orientation, where Fan et al 2020 found a partial mediating impact of social media adoption on entrepreneurial orientation. Similarly, Maharjan 2024 a study done in Nepal also has a partial mediating effect of social media adoption but these studies were done in the Asia region where this study was conducted in central america.

The use of entrepreneurial attitude can impact the performance of MSMEs if owners and managers believe that the resources that are available are used to enhance their success in business. The dimension of entrepreneurial orientation is evidently used through social media as most MSMEs from the survey indicated that they possessed basic electronic devices and they were able to take risks to ensure that they stayed engaged with their clients. As a result, social

media platforms and its adoption in the MSMEs especially during a crisis was to assess information to determine entrepreneurial attitude where they would take the risk, be proactive and be innovative. It is through the social media platforms that the MSMEs owners were able to maintain their connection and acquire the necessary information from government officials that directed them as to how they were to navigate the business scene considering the lockdowns and restriction of movements (Abdelfattah et al 2022). In theory owners and managers of MSMEs can increase sales by employing social media to aid with how sustainable a business can be in the future (Syam et al 2022).

During the Covid 19 innovation was critical for the survival of many MSMEs. The environment was turbulent with restriction of movement, and many aspects of businesses were affected. It was the use of social media that a number of the MSMEs employed as a way to maintain contact with their clients. The findings also show that the MSMEs businesses in central Jamaica did not just think about innovations as the nature of the environment impacted on what new ways of operations could be done. However, the social media platforms were used and 35% of the MSMEs surveyed used whatsapp and 34% used facebook as the avenue and path of exercising their innovativeness through the social media adoption to result in positive performance during a turbulent time in the world. As postulated by Syam et al (2022) innovations of technology through the use of social media strengthened SMEs in numerous ways such as marketing and knowledge sharing. It is important for customer participation in the use of social media as this is a way of creating innovation (Moghadamzadeh et al 2020).

The mediation between Entrepreneurial orientation and MSMEs performance further contributes insight into social media adoption as a mediator and adds to the study of (Wiwoho et al 2020; Dirgiamto et al 2019). As a result the MSMEs were able to use the resources available

to them through social media being one of the key resources during COVID-19. This supports the RBV theory where MSMEs used their available resources to impact the performance; this is also in support of the Barney 2001 study. The conclusion can therefore be drawn that entrepreneurs in crisis situations, if proactive, can respond to threats and opportunities in a quick and efficient manner. It is through the use of social media that MSMEs were able to remain informed and make decisions, resulting in better performance. Therefore, it is essential for these MSMEs to develop social media skills in order to adopt the most appropriate platforms to impact how products are modified to achieve desired objectives.

However, there is numerous research that shows social media adoption being mediated by other variables. Kareem and Isah (2020) investigated how organisational innovativeness mediated social media adoption and found that there is a significant relationship when innovation is mediated by social media, which leads to improved performance.

Summary

This chapter revealed the findings from the data that was obtained. Descriptive data was assessed to determine the normality of the data and the mean and standard deviation of the variables. The study was performed in two steps using the SmartPLS 4 program: 1. measurement model assessment and 2. structure model assessment. The measurement assessment covered the areas of reliability and internal consistency. Validity, which is also a critical aspect of the quantitative analysis, was done in the form of convergent validity, discriminant validity for the Fornell and Larcker criterion, and heterotrait monotrait, which all indicated that validity and reliability tests were achieved, which meant that step two could be conducted. The structural model assessment was performed using the variance inflation factor, which was to test

multicollinearity, as this can create a type 2 error and make the exogenous variable. However, VIF was established. In the chapter, the path coefficient was also calculated that showed a significant relationship between EO and SMA and SMA and performance but an insignificant relationship between EO and performance. The predictive relevance was also established from the calculation using the SMARTPLs software and indicated that the model has predictive relevance between the predictor of SMA and firms' performance and EO and SMA. All the hypotheses were tested and the findings reveal a substantial correlation between the independent and dependent variables of entrepreneurial mindset and social media usage and implementation and the dependent variable of MSMEs' performance. The latent variable constructs were social media adoption and entrepreneurial orientation that used indicators to create the construct. The hypotheses that were accepted are hypothesis 2 to hypothesis 6, with only hypothesis 1 being rejected.

CHAPTER 5: IMPLICATIONS, RECOMMENDATION AND CONCLUSION

Introduction

Micro, small, and medium enterprises have been affected by the COVID-19 that started in March of 2020, as declared by the World Health Organization (WHO). This greatly impacted the Jamaican economy, and the MSMEs must now find ways to navigate through the turbulent time in order to remain viable under crisis situations. This study therefore came as a paper to understand through quantitative methodology how MSMEs were able to adjust through social media adoption and entrepreneurial orientation in order to combat the turbulent business environment due to lockdowns and restrictions of movement rules set by the government. As a result, the study aims to examine relationships of entrepreneurial orientation using social media adoption as a mediator to impact performance and how the technology, organization, and environment characteristics TOE impact social media adoption. using entrepreneurial orientation. EO was also investigated using the three dimensions of risk taking, proactiveness, and innovation. A quantitative methodology was adapted for the study with the intention of investigating correlation between constructs and also the predictive nature of the conceptual framework. The study faced limitations of sample size as the researcher wanted to target registered MSMEs, which made it more challenging as the criteria for selection meant snowballing sampling had to be done to ascertain the ideal sample for the study. The issue of time was also a limitation due to the university timeframe. Ethical assurances in the study played an important aspect; as a result, participants were required to sign and return an informed consent form, and anonymity was maintained as IP addresses were deleted when responses were received online as data was collected using an online survey.

This chapter will discuss the findings and results using the research questions and hypotheses for structure and proper organization of the results. Recommendations will also be outlined, and future studies will be suggested.

There are four research questions that were posted in Chapter 1 to guide the study:

RQ1. What is the relationship between entrepreneurial orientation (EO) and MSMEs performance in central jamaica during covid 19?

H1₀. Entrepreneurial orientation is not positively associated with MSME's performance in Central Jamaica

H1_a. Entrepreneurial orientation is positively associated with MSME's performance in Central Jamaica

RQ2. What is the association between the TOE framework characteristics and social media adoption within MSMEs operating in Central Jamaica during COVID-19?

H2₀ Technology characteristics have no positive influence on social media adoption by MSMEs in central Jamaica.

H2_a Technology characteristics have a positive influence on social media adoption by MSMEs in central Jamaica.

H3₀ Organisational characteristics have no positive influence on social media adoption by MSMEs in central Jamaica.

H3_a Organisational characteristics have a positive influence on social media adoption by MSMEs in central Jamaica.

H4₀ Environmental characteristics have no positive influence on Social media adoption by MSMEs in central Jamaica.

H4_a Environmental characteristics have a positive influence on Social media adoption by MSMEs in central Jamaica.

RQ3. How do MSMEs in Central Jamaica perform when social media is adopted?

H5₀ Social media adoption has no positive effect on MSMSs performance in central Jamaica.

H5_a Social media adoption has a positive effect on MSMSs performance in central Jamaica.

RQ4. What is the relationship between entrepreneurial orientation (EO) and social media adoption as a mediating factor on MSMEs performance during covid 19?

H6₀: There is no positive relation between entrepreneurial orientation and social media adoption.

H6_a There is a positive relation between entrepreneurial orientation and social media adoption.

H7₀: There is no positive relation between entrepreneurial orientation and social media adoption as a mediating role on MSMEs performance

H7_a: There is a positive relation between entrepreneurial orientation and social media adoption as a mediating role on MSMEs performance

Conclusion for research questions

RQ1. What is the relationship between entrepreneurial orientation (EO) and MSMEs performance in central jamaica during covid 19?

To answer research question 1 and hypothesis 1, three dimensions of entrepreneurial orientation namely innovation, risk and proactiveness were employed in the study. The findings reveal that there is no significant relationship between entrepreneurial orientation and MSMEs performance when there is direct relationship between the two. The findings are more aligned to the unidimensional concept of entrepreneurial orientation that view the three dimensions in the study as one concept. On the other hand, the multidimensional concept looks at each dimension possessing its own strength where each can impact the performance of a business may differ (Lumpkin and Dess 1996). According to Covin and Miller (2014), performance can be impacted as if multidimensional entrepreneurial orientation is where one dimension could be low but the other two are high which could impact overall performance. However, the unidimensional EO has all three grouped even if one is low it impacts the overall impact on performance which could have been one reason there was not significant relationship between EO and firm's performance during the covid-19 pandemic. These findings of this study revealed no significant

relationship which means owners of the MSMEs may not be able to identify the unique contribution of various dimensions. Therefore, the use of entrepreneurial orientation among MSMEs in central Jamaica during the covid 19 pandemic did not impact the performance of these businesses. The turbulent environment led the owners not to pursue EO activities as there were a number of regulatory restrictions. Based on the survey a high percentage of respondents claimed they were afraid of risk taking due to the uncertainties within the business environment at the time. This is aligned to Wiklund and Shepherd(2005), who claimed that EO may not have significant relationships due to regulatory and environmental changes which can impact how entrepreneurial orientation impacts performance Lumpkin et al (2009).

Whilst there is some financial support from the government of Jamaica and some agencies to help MSMEs, most of these businesses are driven by personal savings and investments. During the covid 19 pandemic most of these businesses were reluctant to invest funds which affected how they were able to innovate, engage in risk taking and initiate proactive projects as they were more about survival. Hence it was challenging for these MSMEs to employ more entrepreneurial effort to impact performance. This is supported by Nguyen and Ng 2007 who found that small and medium businesses find it more challenging to engage in entrepreneurial orientation initiatives due to lack of resources. Additionally, the external environment created more uncertainties and this is aligned to Zahra and Covin 1995 who posit that with a higher degree of uncertainties in the environment, entrepreneurial orientation will be less predictable leading to lower levels of risks taking and innovativeness.

In conclusion the non-significant relation of entrepreneurial orientation on MSMEs performance during the covid-19 pandemic could have been as a result of the extreme uncertainties that came about due to the covid-19 pandemic, which created much difficulties for

the MSMEs to engage in risk-taking, innovativeness and proactiveness due to the changes in regulatory measures implemented by the government of Jamaica. The research failed to reject the null hypothesis and the alternative hypothesis was not supported based on reasons aforementioned.

RQ2. What is the association between the TOE framework characteristics and social media adoption within MSMEs operating in Central Jamaica during COVID-19?

H2 Technology characteristics have a positive influence on social media adoption by MSMEs in central Jamaica. H3 Organisational characteristics have a positive influence on social media adoption by MSMEs in central Jamaica. H4 Environmental characteristics have a positive influence on Social media adoption by MSMEs in central Jamaica.

In order to answer this research question, the three hypotheses that covered the TOE framework all have positive relationships between technology, organization, and environment characteristics and social media adoption. The technology characteristic covers both internal and external factors. During the COVID-19 pandemic, MSMEs in central Jamaica had technology as one factor that aided these businesses to use the platforms provided by the government to promote and market their products during the periods of restrictions and lockdowns. For most businesses, they responded in the survey that the technology was easily implemented and relatively cheap, as most businesses had access to platforms such as WhatsApp. The element of compatibility aided the internal setup of these MSMEs as the adoption of social media was compatible with their existing network, even though the use of this was not fully implemented until the COVID-19 pandemic. When questioned about the complexity or ease of use of social media platforms, most participants were able to show the complexity of the technology

Implementation was not a major issue, as most establishments possessed basic devices such as mobile phones with Instagram, WhatsApp, and Twitter installed. As a result, the platforms were user-friendly and required little technical ability for technology to positively influence social media adoption during the COVID-19 pandemic. It is interesting that these MSMEs recognized the perceived benefits of using these digital tools more seriously for business. The country has adequate internet infrastructure, which aided these businesses to be able to adjust easily and quickly as smartphone point of sale machines and other online platforms were already operational for most of the businesses. The government plays a critical role in shaping the digital platform for a country, and the government of Jamaica has now started the MSME digitalization plan to aid MSMEs in the digital market, which can be helpful with crisis management.

The organizational characteristics demonstrate a positive relationship that influences social media adoption. The internal factor of top management support showed that the owners and senior managers of these MSMEs were instrumental as to how social media was adopted in the business. The findings emphasize that top management is critical in the process of social media adoption, which is an internal factor. The managers and owners were the forerunners of innovation and creativity in ensuring that social media was adopted to deal with the crisis that they faced. The research shows that MSMEs were flexible and adaptive to the external environment, which indicates that these businesses are resilient when it comes to dealing with issues. Additionally, this could be used to advantage where MSMEs become knowledgeable of how to quickly adapt to the changes within the business environment regardless of the turbulent times. Most MSMEs struggle with financial support and budget issues in central Jamaica. The findings answer the research question to show that the internal factor of cell phones and other digital devices was very instrumental in how they were able to use social media as a tool of

driving performance and survival during the COVID-19 pandemic. This also supports the flexibility and adaptability of how these businesses were able to view social media platforms as valuable in order for these platforms to be adopted. Employees as internal factors were also responsive and adjusted to the new procedures and processes that these businesses implemented in order to survive.

The environmental characteristics of the TOE framework in this study covered environmental uncertainties, competitive pressure and government support. To answer the research question, these environmental characteristics were considered as external factors that influenced how social media was adopted by MSMEs in central Jamaica. The COVID-19 pandemic created a level of uncertainty among MSMEs owners, but it was this uncertainty in the environment that drove these businesses to adapt various social media platforms as a way of staying connected to customers. The MSMEs in central Jamaica faced competition even though the business environment was turbulent. The competition mainly existed between how these businesses that were never online competed with those that were already using e-commerce. Most of the MSMEs had a loyal customer base who they were serving before the pandemic, which meant these businesses needed ideas as to how to serve and maintain relationships with the customers. However, the need to be relevant drove these MSMEs to adopt social media in order to deal with competitive pressure from other businesses. The resource-based view (RBV) postulates that firms possess identical resources, which makes it more challenging for these businesses, especially the registered businesses. Hence the need for the government to support these legitimate businesses was vital. Consequently, government support received the lowest in terms of responses to say they received little or no help from the government. This, however, was during the initial stages before the government had embarked on helping the sector. During

the heights of the pandemic, the Ministry of Industry and Commerce rolled out a programme where grants were given that assisted the MSMEs. The data and findings from the research show that this was also instrumental to the owners and managers, as they felt this aided their thrust in implementing technology in the form of social media to retain and serve their customers. Later after the pandemic, the government worked in tandem with the private sector and developed a framework where the training programmes were designed in the form of MSMEs road shows to aid entrepreneurs with digital literacy and financial guidance. The Ministry of Industry, Investment, and Commerce and the Inter-American Development Bank (IDB) spearheaded these training and exposure programmes for MSMEs. In essence, the lockdown restrictions and other regulations implemented by the government of Jamaica drove the MSME sector to resort to digital usage in a turbulent economic environment.

In the TOE framework, each characteristic influences how social media is adopted, having significant relationships, which underscores the fact that these characteristics do aid MSMEs in central Jamaica to adopt social media platforms in the workplace. It is through the use of social media that the businesses were able to retain customers, communicate information about operations, and manage operational activities, which signifies the importance of these external and internal factors in how social media was adopted during the COVID-19 pandemic. The three (3) alternative hypotheses were supported, and the null was not accepted.

RQ3. How do MSMEs in Central Jamaica perform when social media is adopted?

H5 Social media adoption has a positive effect on MSMSs performance in central Jamaica.

One of the aims of this research was to answer the research question of how social media adoption impacts the performance of MSMEs in central Jamaica during the COVID-19 pandemic. MSMEs during the pandemic adopted numerous platforms to ensure that continuity of

the businesses were sustained. Performance in this study looked at three areas: business awareness, customer retention, and sales volume. From the data collected and the statistical analysis, the research supports that social media adoption did impact how MSMEs were able to improve their awareness of the business and customer retention drives. Even though sales volume was the least to impact the performance, this aspect of the research showed that some MSMEs were positively affected by the use of social media. So while the MSMEs were greatly affected by the restrictions placed by the government, these businesses used the available platforms to enhance their visibility in the marketplace. The vast majority of MSMEs use WhatsApp as the main source of communication and are able to stay connected.

The findings of this paper are consistent with those of other papers (Qaliti et al., 2021; Yasa et al., 2020), who found that there is a strong correlation between social media adoption and MSMEs performance. As a result, it is evident that social media platforms do aid MSMEs with connectivity to customers, which suggests that these businesses were able to navigate through the challenges caused by the COVID-19 pandemic. 72.3% of the change in MSMEs performance during the COVID-19 pandemic was as a result of the social media adoption (see table VII). The conclusions also show that MSMEs can operate in crisis situations if they use the platforms and infrastructure that are already available.

The practical implications of the findings for this research question are that policymakers and owners can design programmes to aid employees with the use of already available technology to enhance a business's performance in a crisis situation. Owners can also use the results to develop a better understanding of how to use the various platforms to engage and retain customers, as social media platforms can aid with the visibility of a company in digital spaces. The resource-based view theory postulates that companies view resources and capabilities as

major assets that can be used to separate one business from the other, as businesses within the same industry would have similar resources (Tipuric 2014). This underscores that social media platforms and their adoption in MSMEs operations serve as a valuable resource that can be used in crisis situations to give a firm an advantage in the competition. It shows that MSMEs were able to navigate through the external difficulties and, through the use of social media, were able to impact performance.

In essence, the results from the questionnaire show that owners and managers of the MSMEs in central Jamaica believe in the use of social media platforms as a way to communicate and engage their customers. They felt that the implementation was easy to use as all businesses have access to cell phones, whether personal or for the business. They felt it was necessary to use social media as a way of retaining their customers business even though there were restrictions in movements. The owners and managers also felt that the social media platforms used did not impact sales volume by much based on the statistical results. The results also showed that most of the businesses used WhatsApp as their main social media platform, even though some used Facebook and Instagram. Social media is considered a low-cost resource that helps MSMEs in how they interact with the customers. The positive relation found in this research supports the point that when social media is adopted in a crisis situation, these platforms can aid the owners and managers to cultivate and develop relationships with their clients. This resulted in performance being affected, where customer engagement was one of the main aspects of the findings from the data collected. This also helps with managers and owners becoming more innovative, as information collected from customers through engagement can be used for the development of services and goods. The pandemic saw many MSMEs changing how they operated, and hence the social media adoption aided the thrust of innovation among the MSMEs.

RQ4. What is the relationship between entrepreneurial orientation (EO) and social media adoption as a mediating factor on MSMEs performance during covid 19?

H6a There is a positive relation between entrepreneurial orientation and social media adoption. H7a: There is a positive relation between entrepreneurial orientation and social media adoption as a mediating role on MSMEs performance.

The research answers this question by looking at entrepreneurial orientation as a multidimensional concept, which was postulated by Lumpkin and Dess (1996). This view sees the dimensions of innovation, proactiveness, and risk-taking as having a separate impact on social media adoption therefore, the dominance of one dimension may have a stronger impact over others, which impacts the variable of social media adoption. Therefore, it can be concluded that entrepreneurial orientation impacted how social media was adopted during the COVID-19 pandemic.

Innovativeness as one of the dimensions used in this study showed that MSMEs were to be innovative in how they used the various platforms as the restriction and no movement regulations impacted these businesses greatly. Owners and managers were able to be innovative as to how they used the platforms to engage and retain their customers despite the challenges. The businesses demonstrate a level of proactiveness in how they implemented the various platforms to aid their business. The MSMEs also received help from the government, which developed different schemes such as the Boosting Innovation, Growth, and Entrepreneurship Ecosystems (BIGEE) programme. This programme was designed to aid owners in being able access financial support and loans, which could be accessed through the Development Bank of Jamaica (DBJ). Owners and managers also demonstrated a level of risk that contributed to the positive relationship between entrepreneurial orientation and social media adoption that predicted that relation. It showed that owners and managers were willing to risk some resources

to ensure that they remained viable regardless of the pandemic. Therefore, MSMEs with a strong entrepreneurial orientation mindset were more encouraged to support the implementation and use of social media platforms as a way to deal with the disruption of services.

Proactiveness as a dimension of entrepreneurial orientation deals with how MSMEs were able to use the social media platforms in order to access information and data to devise plans to mitigate negative issues. It was essential for the survival of MSMEs during the pandemic to be proactive, using an entrepreneurial mindset to understand how the environment had changed and how thinking creatively could impact their proactiveness to act. These businesses were able to use proactiveness to drive how they could use a mediator as social media to impact performance rather than just taking initiatives that could have ended in more disaster considering the turbulent environment they were operating in at the time of the pandemic.

The uncertainty in the business community and the world at the time of the COVID-19 pandemic created some level of risk taken by MSMEs in central Jamaica. These businesses were forced to experiment with technology to survive the harsh realities of the times. It therefore required courage from owners and managers to invest in digital platforms to maintain connections with their clients. The research therefore shows that entrepreneurial orientation can be leveraged to challenge owners and managers to take on new challenges that would not have been done in a stable and predictable business environment. It is through this that the strategic plans of these businesses were implemented to ensure that they survived. Therefore, the businesses that were more inclined to an entrepreneurial mindset were able to navigate the challenges of the time by quick response to the needs of the customers and stakeholders and resorted to social media platforms as a way to handle the difficulties and modifications to the traditional way of operations.

The findings of Hypotheses seven (7) indicated that social media adoption has a full mediation role between entrepreneurial orientation and social media adoption. This also shows that MSMEs businesses that utilized entrepreneurial orientation were able to impact performance through the use of social media rather than a direct impact. Other studies have provided substantial information that entrepreneurial orientation should be considered as a resource within firms (Sulityo H., Ayuni S., 2020); hence, the resource-based view theory supports this claim. It can be concluded that entrepreneurial orientation has an indirect effect on performance when mediated, and this study has shown that entrepreneurial orientation was impacted by social media adoption as a resource in the business that impacted how these MSMEs performed through the pandemic period. This supports Fan et al.'s (2020) research that used social media as a mediator of entrepreneurial orientation and performance and proved that there is mediation between the predictor and criterion variables. Therefore, this research proved that entrepreneurial orientation with a direct link to a firm's performance does not impact the business greatly over performance unless there are some indirect effects. In this research, owners and managers used risk, innovation, and proactiveness as multidimensional concepts to influence how they adopted the various platforms to impact their businesses, especially during a crisis.

This study presents theoretical and empirical contributions towards a deeper understanding of how social media adoption and entrepreneurial orientation impacted micro, small, and medium enterprises during the Covid-19 pandemic. The research findings validate the importance of the Technology Organization and Environment (TOE) framework, which posits that all these factors are essential for MSMEs when adopting social media. The study therefore contributes to a deeper theoretical understanding of how the factors of the TOE framework integrate with each other for MSMEs in an emerging economy such as Jamaica during the

Covid-19 pandemic. It also shows the complexities of social media adoption within MSMEs and proves that these businesses can reach customers through the various platforms if there is a crisis in the external environment. The positive relationship between TOE and social media adoption also highlights the fact that when MSMEs are considering social media usage in their operations then the multiple dimensions of the technology, organization and environment should be considered. The following are the theoretical and practical implications:

Theoretical contributions

1. The antecedent of technology concept implies that MSMEs perceive that relative advantage of technology that leads to innovation is more likely to be accepted by MSMEs as they feel it will give an advantage to their competitors. Rogers (2002) posits that if employees believe that innovation has more advantage than the existing technologies then is more likely for the technology to be accepted due to the perceived relative advantage it gives to the organization. Complexity of the technology is more readily accepted in MSMEs when employees feel confident in their abilities with the technology and MSMEs will adopt technology use if the technologies are compatible with existing systems. Therefore the perceived relative advantage should be communicated to all stakeholders as this will aid greater acceptance of technology within MSMEs. In addition, MSMEs should ensure that users of the technologies are competent before using the technology, therefore owners should ensure that the technologies are compatible with existing systems. This is supported by Nguyen et al (2020) that social media adaptation is less challenging if there is compatibility between the existing systems and the ones to be implemented. The overall implication of the technology context is MSMEs in central Jamaica, suggesting that organizational readiness and careful strategic planning, to

include training when making decisions to implement technology is important as this will positively affect how technology as an antecedent for social media adoption is implemented.

2. Organization context as an antecedent for social media adoption, deals with procedures, processes, employee, owners and top management and the overall organizational structure and the resources of a firm (Tornatzky and Fleischer 1990). In this study, top management, cost and employee skills were the sub-variable of organizational context. The result of the study shows that organizational context has a positive relation to how social media is adopted in MSMEs in central Jamaica. The implication of top management and owners support is that leadership is vital to create buy-in when considering to adopt social media and top management and owners set the pace for organizational culture and resource allocation which can lead to overall MSMEs performance. Also the implication for employees skills is shown in the research that employees training and digital literacy creates capacity for MSMEs and supports these businesses' objectives in being profitable and supporting clients. According to Vial (2014), social media integration in marketing impacts business performance. As a result MSMEs who employed and embraced social media adoption were better able to improve customer retention through better interaction which ultimately impacted positively on how businesses perform.

3. The environmental context deals with external and internal factors to include but not limited to the industry, access to technology and also policies and legislations by governments (Ahani et al 2017). The study focused on government support, competitive advantage and environmental uncertainties and presented results to indicate that the environmental context as an antecedent for social media adoption has a positive significant relation to social media adoption in MSMEs in central Jamaica. The study concur with other studies such as Lutfi (2020), where environmental context has a postive relation to social media adoption. The findings suggest that government support, competitive advantage and environmental uncertainties all impacted on how MSMEs in central Jamaica adopted the use of social media during the Covid-19 pandemic. The implication of this study suggest that government support is essential with regards to MSME's policies and in the Jamaican context the policy is currently being updated to support MSMEs in the country. Training and capacity building when supported, will drive MSMEs to adopt social media in their operations. In the Covid-19 pandemic MSMEs faced great level of uncertainties, and environmental uncertainties implies that MSMEs should be flexible when considering social media adoption for the unforeseen changes. The research has further implications for MSMEs in crisis situations to consistently review market trends and conditions which helps with social media adoption.

This research lengthens the literature on the TOE framework as there is not much research that has been done to look at how MSMEs use social media during the Covid-19 pandemic and within an emerging economy such as Jamaica.

The study also shows empirical support towards entrepreneurial orientation, which posits that EO are strategies to enhance innovativeness, proactiveness and risk taking decision (Presutti

& Odorici 2019; Rauch et al 2009) and that firms that engage in EO normally would outperform their counterparts. Theoretically, the results of this study contribute to how entrepreneurs behave in relation to innovation, proactiveness, and risk-taking, especially in a crisis. The study also followed the RBV theory, which suggests that resources are heterogeneous and considered valuable, which gives MSMEs a competitive advantage, whereas entrepreneurship focuses on heterogeneous beliefs about the resources (Alvarez and Busenitz 2001). The theory supports the study, as MSMEs in central Jamaica during the COVID-19 pandemic had to develop strategies as to how the resources and capabilities within each business were utilized to drive social media adoption. Therefore, entrepreneurial activities, behavior, and thinking are valuable intangible assets to these MSMEs in order for survival during a major crisis. As a result, this study supports that EO can be used for small scale enterprises such as MSMEs, as the literature mainly applies entrepreneurial orientation to large firms.

The novelty of the research is in relation to the findings of social media adoption as a mediator. This answers the call for the mediating role of social media adoption to be explored regardless of country structure by Fan et al. 2021 in their study about social media adoption and entrepreneurial orientation on small and medium enterprises. Qalati et al. (2021) also suggested more studies to be done where social media adoption is seen as a mediator variable, as many studies have looked at the mechanism between EO and SMEs performance, such as experiential learning but very few on social media as that mechanism within MSMEs in a least economically developed country.

There are prior studies that have investigated the direct impact of entrepreneurial orientation on social media adoption (Karami & Tang 2019) however very few studies have been done to investigate this area with regards to Covid-19 pandemic in the emerging economy

in central America. This is significant as results from research in this area where the sample population was from developing and developed economics should not be extrapolated to draw conclusions for emerging economics (Durkin et al. 2013). The research will add to the literature on social media adoption and MSMEs performance and, in addition, how entrepreneurial orientation impacts social media adoption in the face of a crisis. There are few studies that have been done to investigate how EO affects SMA, especially in a crisis, therefore this study will contribute to the literature. Whilst, the research shows that there is no significant relation between Entrepreneurial Orientation and MSMEs performance this study calls for further studies to be done to investigate if EO has any direct impact on performance in an emerging or third-world economy during a crisis.

Practical contributions

The study has the potential to aid managers and owners of MSMEs in a practical sense, where these leaders can develop more comprehensive strategies when considering social media adoption to enhance performance. The TOE framework can help these MSMEs to focus not only on the technological aspects of the framework that deal with the complexity of the platforms, the relative advantage of the technology, and the compatibility of the types of social media platforms, but the other aspects of organizational readiness, including training and environmental context, such as government support, should be considered. In addition, owners and managers therefore will be better equipped when deciding on social media adoption in order to augment the level of performance when MSMEs in central Jamaica are called to be resilient in the face of global economic changes.

For central government, local government, and agencies such as the Jamaica Business Development Corporation, the study could aid the departments to enhance digital literacy programmes. The country has been plagued by the recent misuse of technology, and measures to be implemented to curtail that deviant behavior need to be carefully investigated, as some measures may negatively impact MSMEs who want to use technology in a positive way. As a result, the findings indicate that dialogue with the various stakeholders will be necessary for the implementation of policies. This study shows that the environment in which businesses cooperate needs to be conducive for them to thrive. With the TOE framework, the study shows that it is vital for the adoption of technology, and policymakers need to ensure that policies are implemented to protect these businesses whilst providing the support for them to grow and adopt technology. The findings can also add to the literature for MSMEs owners and prospective owners and managers that hopefully could be beneficial to those enrolled in MSMEs programmes with the HEART/NSTA trust. This could provide information and data on how MSMEs can navigate the challenges of crises. Social media adoption and entrepreneurial orientation have been considered as impactful resources that can be utilized to influence how owners and managers think about their investment in resources such as technology.

In summary, the study validates the theoretical implication that suggests how the underpinning mechanisms in MSMEs operate through entrepreneurial behavior in order for businesses to be successful during a major crisis such as the COVID-19 pandemic. The research further validates resource-based view theory that underlies the entrepreneurial orientation that unearths and supports strategic management practices that MSMEs can implement and how policies should be developed to support MSMEs.

Recommendations for Application

Central and local government/policymakers. The study recommends that policymakers within the Ministry of Industry, Investment, and Commerce Jamaica design more targeted interventions in order that digital innovation can be promoted. Further to this, it is also essential that entrepreneurship training and more workshops be coordinated to reach MSMEs in the central region of Jamaica. The MIIC, in collaboration with the Inter-American Development Bank and Jamaica Producers (JAMPRO), has started the ‘MSME Road Shows’ initiative, which is geared at helping the businesses become market-ready. Whereas one of the main goals is to formalize these MSMEs, greater partnerships between educational institutions can be forged to design specific courses and workshops for business owners and employees in digital technology literacy and leadership skills. It is also recommended that industry associations and the various stakeholders collaborate to have knowledge shared to develop best practices and benchmark MSMEs that are performing well through the use of social media and entrepreneurial skills. Therefore, greater effort should be made in ensuring that regular conferences and workshops are conducted to facilitate this recommendation. In addition, it is also recommended from the findings of the research that agencies could help with preparing MSMEs to enhance their e-commerce platform. As a result, the local agencies, such as the Rural Agricultural Development Authority (RADA) and the chamber of commerce in the region, could provide assistance to MSMEs so that products can be sold online.

According to the 2022 Global Sector Service (GSS) report for Jamaica, digital infrastructure is limited, and hence businesses struggle with high costs that are significantly higher than nearshore and competing regions. Considering the significance of MSMEs in Jamaica contributing 60–80% of jobs in the society, there should be improved infrastructural

facilities for digital services. It is recommended that the government embark on improving the infrastructure that will allow for expansion of broadband network and measures to lower cost for MSMEs to adopt social media as relative cost as one of the antecedents for social media media adoption is important if MSMEs should consider investing in more and better technology. Therefore, resource allocation is essential, and the findings of this research can aid the Jamaican government in making decisions about funding for MSMEs for digital infrastructure development. It is recommended that funding allocation be prioritised for MSMEs where grants and other financial support can be given and not just providing facilities for loans.

Owners and managers of MSMEs. 1. This study's findings indicate that social media adoption fully mediates the relationship between entrepreneurial orientation and performance. Risk-taking, innovation, and proactiveness were reflective indicators in the entrepreneurial orientation construct, which means that entrepreneurial orientation was the basis on which these three dimensions work. The study also used the unidimensionality of the EO construct, which meant all three areas were seen as one. Whereas the findings show no direct relationship between entrepreneurial orientation and performance, there is a strong predictive and mediation effect with social media as a mechanism to aid entrepreneurial orientation. As a result, owners/managers should endeavour to ensure they operate as risk-takers in crisis situations, demonstrate a proactiveness to be leaders in their industry, and be innovative in how they seek new avenues to grow their businesses. Considering that EO shows no direct significant impact on a firm's performance in this study, it is recommended that the MSMEs that use social media adoption as a way through which they demonstrate entrepreneurial skills should continue to do so, and those that have not yet started or are just using the three dimensions in isolation to achieve positive performance should now look at how they can leverage their risk, proactiveness,

and innovation through adopting social media platforms to increase performance in the number of areas outlined in this study.

1. The study indicates that social media adoption mediates entrepreneurial orientation positively and impacts MSMEs performance in terms of better sales revenue, increased business visibility, improved customer engagement, increased customer engagement, and helping with marketing, making an overall improvement in performance. It is recommended that MSMEs consider social media as primary and central to operations, as this can transfer businesses to performance better.
2. Technology, organization, and environment contexts of the TOE framework that help businesses with the decision of whether to adopt technology or not. The study finds that there is a significant positive relationship with the TOE and how MSMEs adopted technology during the pandemic. Therefore, MSMEs should investigate these three dimensions carefully to develop a better understanding of how their businesses fit in each context and then make the necessary adjustments to ensure that each aspect is strengthened. The environment context looks at the government support, the environmental uncertainties, and the competitive advantage that a business might have over another if social media is adopted. Organizational context deals with the cost perception to decide if the risk is necessary to invest in social platforms. Top management support covers how receptive the owners and managers are to the use of technology in volatile market environments and employees skills to determine if the employees are conversant as to how to use the technology in their work processes and procedures to aid the growth of the business. The technology characteristic looks at the compatibility of the MSMEs technology systems and how new technology can be

integrated. Complexity and relative advantage would also need to be considered by the MSME.

3. The TOE framework is a precursor for social media adoption; hence, it is essential and highly recommended for owners/managers to remain relevant in an ever-changing digital world; therefore, the need to constantly evaluate and audit the social media platform is necessary for MSMEs to be sustainable. Owners/managers should be aware of government support projects and schemes to ensure they tap into all the necessary resources to stay up-to-date with training programmes and new technologies.

Limitations and Recommendations for future studies

The study has some limitations that can inform how and in what areas further studies can be done. Firstly, the sample size of the study was small, with 154 owners and managers of MSMEs within the central region of Jamaica. As a result, generalising may be an issue as the sample used was just representative of the MSME sector in Jamaica. A bigger population sample would have impacted the statistical power of the analysis, however, our sample size is comparative to studies (McGee and Peterson 2019; Strese et al 2018). Even though the population sample that was taken is small it lends for study specific context which has merit as in order to attain results that are wider creates much more difficulties (Gardner 2008). Therefore, on the other Miller (2011) postulates that greater accuracy is achieved when specific relationships are identified in the study and this is the case just researching one region in the country of Jamaica. In Moric-Milovanovic (2022), he recommends that larger sample sizes be used in studies dealing with entrepreneurial orientation. He believes that multi-country analysis would aid with external validity. It could be suggested that comparable studies be done especially in the

Caribbean countries of the west indies, as findings of the study cannot be generalized to MSMEs in Jamaica or the rest of the Caribbean countries. As such, future studies could be conducted with a larger population sample, to fully understand how MSMEs are affected in all the regions of the country. It would also be interesting for other studies to research specific industries such as retail or tourism industries.

Secondly, this research used three dimensions of entrepreneurial orientation, risk-taking, innovation, proactiveness, therefore this may be restricted and be regarded as a constraint. According to Zahra and Covin (1995) corporations can be shielded from environmental issues or concerns if they have a large resource pool, therefore if new MSMEs or ventures fail then riskier initiatives are encouraged. March and Simon (1968) on the other hand states that access to limited resources could propel firms to experiment which could develop new ideas and opportunities. As such further studies may incorporate all five dimensions to validate the theory of EO and its impact on MSMEs as this study found no significant relationship between the two. Previous studies done by (Albashrawi and Motiwalla 2020, Dey et al 2020 and Chang et al 2020) all used the PLS-SEM which show mainly the linear relationship among constructs and this study adopted the same methodology which suggests that future research could investigate the both the linear and nonlinear association of each of the dimensions of entrepreneurial orientation and the TOE framework. Lumpkin and Dess (1996) in theoretical justification outlined from a conceptual view that moderators are important elements in lining EO to performance. The current study therefore show the need for future explorations both theoretical and empirically where moderators are considered in the study. This could possibly show how EO impacts performance during a crisis situation.

Thirdly, the research was in central Jamaica to investigate how social media adoption and entrepreneurial orientation impacted performance during the covid-19 pandemic. The findings are therefore only based on covid-19 and how the MSMEs perform, but not what happened post covid-19. As a result, longitudinal studies could be conducted in the future to analyze what are the differences between the EO and Social media adoption during and after a crisis such as the covid-19 pandemic.

Finally, this research used the Technology, organization, Environment (TOE) framework but all factors proposed by Tornatzky and Fleischer (1990) were not included in the research and hence further research could be conducted to investigate all these factors and how they impact on MSMEs in Jamaica and/or the caribbean.

Conclusion

In conclusion, the aim of this quantitative research was to investigate the interplay between social media adoption and entrepreneurial orientation on MSMEs performance in Central Jamaica during the COVID-19 pandemic. MSMEs are known to be major contributors of economic growth worldwide, and with the COVID-19 pandemic, where lockdowns and travel restrictions were implemented across the globe, it became necessary for researchers, owners, government officials, and practitioners to understand the underlying causes that affected MSMEs in central Jamaica due to the COVID-19 pandemic. This further impacts this sector in productivity and the impact it has on the economy, as reduced sales and increased unemployment do affect how an economy grows. In the context of Jamaica, where so much is dependent on MSMEs, whether formal or informal, it becomes imperative for the sector to maintain viability. In central Jamaica or rural Jamaica, social media adoption is essential for MSMEs to facilitate connections with customers and to provide quick feedback to the businesses. Additionally, social media is known to aid with market reach and create more opportunities for market while maintaining the cost level. On the other hand, entrepreneurial orientation as another construct of this study looked at EO being able to impact innovation whilst taking risks considering the pandemic. This created the context for the study, but more importantly, due to the COVID-19 pandemic, the need for studies such as this to support MSMEs is necessary to understand how systems can be implemented to support businesses in crisis management in a rapidly changing and turbulent business and economic environment.

However, considering the Covid-19 pandemic was seen as a modern crisis (Alon et al. 2020), and MSMEs are vital to economics globally, this created gaps in the literature as prior to

the Covid-19, most of the research on MSMEs and SMEs was mainly about other areas other than a global crisis or crisis management. It is almost essential for MSMEs in this current business climate to know how to adapt to these changes and develop strategies to remain competitive and survive. In this current business environment, social media platforms play a major role in encouraging the growth of entrepreneurial activity in MSMEs (Fan et al., 2021), and hence the need to have conducted this research to address the lack of studies done about social media adoption and entrepreneurial orientation within the Caribbean and how MSMEs were affected by the COVID-19 pandemic.

Numerous studies have posited survival tactics for MSMEs; however, a high percentage suggest that technology is vital for survival. Innovation using digital platforms and social media has also proven to be very successful when these are implemented in a business (Caballero-Morales 2021). Whereas its important for governments to aid these MSMEs through lending as one area, it is equally important for the required infrastructure to be in place (Chowdhury and Shumon 2020). It is through the various media that MSMEs can survive, and these include training and sensitization, counseling and financial support. All countries were impacted by the pandemic, and financial governments have called on lending institutions to adjust loan repayment terms (Mouelhi and Ghazali 2021). Survival of MSMEs was challenging during the pandemic, and the results show that many of these businesses had little option but to turn to social media. According to Sudarmiati (2022), MSMEs were able to withstand the challenges of the pandemic through the use of social media promotions, employees adapting to new technologies, creating new processes and procedures for the transactions, and adhering to the policies outlined by local government officials (Salamzadeh and Dheer 2022).

The gaps of this study come as a result of a number of areas that have been found lacking. The Caribbean area has been known in previous studies, such as Abboodi et al. 2023, that this region presents its own unique challenges, and understanding MSMEs with a cultural and regional economic concept in mind created gaps as more studies about MSMEs, social media adoption, and entrepreneurial orientation can be found in emerging and developed regions and economies, and such more studies need to target the specific region. The literature also found gaps in how social media is being used as a mediator, especially for EO. Other studies have used social media adoption as an exogenous variable, but very few have used it as a mediator or moderator variable. According to Qalati et al. (2020), they call for more research to be conducted using social media adoption as a mediator. This study looked at social media adoption and entrepreneurial orientation as predictors of MSMEs performance during the pandemic. As a result, this presents a gap, as numerous studies have only looked at one construct and its impact on performance. Therefore, this research has relevance as two constructs are being combined to develop a better understanding of how performance within MSMEs is impacted under crisis situations.

The findings of the study provided insightful information about the factors that influenced MSMEs in central Jamaica. Due to lockdowns and restrictions of movement, social media adoption was found to have a significant correlation to the Technology-Organization-Environment (TOE) framework, which showed that MSMEs were significantly impacted by social media adoption during the COVID-19 pandemic. These results contribute to the significance of social media usage/adoption as a method to maintain MSMEs operations and to respond to the needs and demands of the customers during a crisis such as the pandemic. The results underscore the importance of MSMEs employing strategies to adopt social media, which

contributes to the literature and gives practical ways that owners, managers, and government officials can undertake to drive MSMEs performance during a crisis. With regards to entrepreneurial orientation, the results show that there is a significant relationship between EO and social media adoption but revealed no direct impact of EO on MSMEs performance.

Entrepreneurial orientation in literature has shown that there is a link between EO and growth (Rauch et al. 2009). However, according to Wales (2016) and Covin and Lumpkin (2011), there is a conceptual gap in papers that aim to research and the link between EO and performance. They claim that the literature that tends to postulate EO and its contribution to a firm's growth is limited and creates some level of ambiguity. This paper was aimed at presenting arguments that highlight the relationship between EO and MSMEs growth during the COVID-19 pandemic. As a result, EO needs to be mediated in order to be effective in crisis situations.

The research paper started with the introduction of the study that outlined the purpose and aims, the objectives, and the significance of the paper. A review of literature was done to cover the impact of social media adoption and entrepreneurial orientation of SMEs and MSMEs and to assess the views of other papers; this comprised a chapter of the study. After collection of data from the population, analysis of data collection was conducted, and results were reported in Chapter 3 to cover demographic data and how owners and managers responded to the survey. The findings were then reported in Chapter 4, which covered reliability and validity along with the discussion of the findings. The final chapter covered the areas of implications, recommendations, and conclusion.

The study validates the theoretical implication that suggests how the underpinning mechanisms in MSMEs operate through entrepreneurial activities in order for business operations to be successful during a major crisis such as the COVID-19 pandemic. The findings

contribute valuable insight about the theoretical implications of the RBV theory and TOE framework. Through this research, the findings of social media adoption and entrepreneurial orientation to the literature where owners, practitioners, academics, and policymakers will be better able to create strategies to support MSMEs in navigating digital platforms and crisis management effectively. The survey showed that most of the online transactions were done via facebook and WhatsApp, highlighting the importance of digital technologies in meeting the needs of customers during the COVID-19 pandemic.

This research also gives practical implications on how MSMEs in central Jamaica may adjust to changes during a crisis. Considering a culture of social media platforms and adoption in operations may need to be reassessed as social media is a better way to leverage the communication between businesses and customers. This is evident in the MSMEs digitalization plan, which was embarked on by the Ministry of Industry, Investment, and Commerce Jamaica. As a result, the practical implication suggests that government officials and legislators should invest in creating the necessary digital infrastructure for social media and develop a culture that is geared towards digital literacy. The research also highlights the possible need for owners and managers of MSMEs to support an entrepreneurial mindset where risk-taking and creativity initiatives are conducted.

The findings of the research also outline that MSMEs in central Jamaica could benefit from programmes specifically designed to address challenges in crisis situations such as COVID-19. In essence, target training and programmes such as ‘MSME Road Show’ spearheaded by the Ministry of Industry, Investment, and Commerce could be further enhanced to develop digital literacy and strategies on capacity-building.

It is essential that policymakers continue to review the policies and regulations that can promote the use of social media in MSMEs, especially during and in crisis situations, to ensure this business sector remains variable. Therefore, to reduce the bureaucratic processes and create policies that encourage MSME development and the digital space to support MSMEs in central Jamaica. This will further impact the strategic decision-making processes and how resources are allotted. Therefore, the research will aid owners and managers in the decision-making process and provide insight as to where investment can be made, especially with regard to social media adoption.

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APPENDICES

Appendix A: Informed consent form



UU_IC - Version 2.1

Informed Consent Form

Part 2: Certificate of Consent

This section is mandatory and should to be signed by the participant(s)

Student's Name: Dwayne Anthony Blidgen

Student's E-mail Address: dblidgen18@gmail.com

Student ID #: R2005D10859358

Supervisor's Name: Dr. Bilal Talal Jibai

University Campus: Unicaf University Zambia (UUZ)

Program of Study: UUZ: DBA Doctorate of Business Administration

Research Project Title: Social media adaptation and entrepreneurial orientation impact on Micro, Small and Medium enterprises (MSMEs) performance in central Jamaica during Covid 19 pandemic.

I have read the foregoing information about this study, or it has been read to me. I have had the opportunity to ask questions and discuss about it. I have received satisfactory answers to all my questions and I have received enough information about this study. I understand that I am free to withdraw from this study at any time without giving a reason for withdrawing and without negative consequences. I consent to the use of multimedia (e.g. audio recordings, video recordings) for the purposes of my participation to this study. I understand that my data will remain anonymous and confidential, unless stated otherwise. I consent voluntarily to be a participant in this study.

Participant's Print name:

Participant's Signature: _____

Date:

If the Participant is illiterate:

I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had an opportunity to ask questions. I confirm that the aforementioned individual has given consent freely.

Witness's Print name:

Witness's Signature: _____

Date:



Informed Consent Form

Part 1: Debriefing of Participants

Student's Name: Dwayne Anthony Blidgen

Student's E-mail Address: dblidgen18@gmail.com

Student ID #: R2005D10859358

Supervisor's Name: Dr. Bilal Talal Jibai

University Campus: Unicaf University Zambia (UUZ)

Program of Study: UUZ: DBA Doctorate of Business Administration

Research Project Title: Social media adaptation and entrepreneurial orientation impact on Micro, Small and Medium enterprises (MSMEs) performance in central Jamaica during Covid 19 pandemic.

Date: 03-Mar-2023

Provide a short description (purpose, aim and significance) of the research project, and explain why and how you have chosen this person to participate in this research (maximum 150 words).

The purpose of this quantitative study is to examine the relationship and impact of social media adoption and entrepreneurial orientation on firm's performance within the MSME sector of central Jamaica during COVID 19 pandemic. The impact of social media adaptation and entrepreneurial orientation on MSME performance during the COVID-19 has not been widely reported within least economic developed countries LEDCs. The aim of this thesis therefore is to conduct an investigation how social media adaptation and entrepreneurial orientation impact on MSME performance during this pandemic of Covid-19. The study is significant due to the noteworthy impact of SMEs as drivers of economic development of most economies across the world (Obi et al 2018 & Ndiaye et al 2018). Theoretically, this research will bridge the gap in literature regarding the lack of knowledge about how businesses within the MSMEs industry are performing in covid 19 pandemic with the disposal of social media and entrepreneurial orientation.

The above named Student is committed in ensuring participant's voluntarily participation in the research project and guaranteeing there are no potential risks and/or harms to the participants.

Participants have the right to withdraw at any stage (prior or post the completion) of the research without any consequences and without providing any explanation. In these cases, data collected will be deleted.

All data and information collected will be coded and will not be accessible to anyone outside this research. Data described and included in dissemination activities will only refer to coded information ensuring beyond the bounds of possibility participant identification.

I, Dwayne Anthony Blidgen, ensure that all information stated above is true and that all conditions have been met.

Student's Signature: dblidgen

Appendix B: REAF_DS Form



REAF_DS - Version 3.1

10. Final Declaration by Applicants:

- (a) I declare that this application is submitted on the basis that the information it contains is confidential and will only be used by Unicaf University for the explicit purpose of ethical review and monitoring of the conduct of the research proposed project as described in the preceding pages.
- (b) I understand that this information will not be used for any other purpose without my prior consent, excluding use intended to satisfy reporting requirements to relevant regulatory bodies.
- (c) The information in this form, together with any accompanying information, is complete and correct to the best of my knowledge and belief and I take full responsibility for it.
- (d) I undertake to abide by the highest possible international ethical standards governing the Code of Practice for Research Involving Human Participants, as published by the UN WHO Research Ethics Review Committee (ERC) on <http://www.who.int/ethics/research/en/> and to which Unicaf University aspires to.
- (e) In addition to respect any and all relevant professional bodies' codes of conduct and/or ethical guidelines, where applicable, while in pursuit of this research project.

☒ I agree with all points listed under Question 10

Student's Name:

Supervisor's Name:

Date of Application: 22-Mar-2023

Important Note:

Save your completed form (we suggest you also print a copy for your records) and then submit it to your UU Dissertation/project supervisor (tutor). **In the case of student projects, the responsibility lies with the Faculty Dissertation/Project Supervisor.** If this is a student application, then it should be submitted via the relevant link in the VLE. Please submit only electronically filled in copies; **do not** hand fill and submit scanned paper copies of this application.



7. Further Approvals

Are there any other approvals required (in addition to ethics clearance from UREC) in order to carry out the proposed research study?

☐ YES ☒ NO

If YES, specify (maximum 100 words).

8. Application Checklist

Mark ✓ if the study involves any of the following:

- ☐ Children and young people under 18 years of age, vulnerable population such as children with special educational needs (SEN), racial or ethnic minorities, socioeconomically disadvantaged, pregnant women, elderly, malnourished people, and ill people.
- ☐ Research that foresees risks and disadvantages that would affect any participant of the study such as anxiety, stress, pain or physical discomfort, harm risk (which is more than is expected from everyday life) or any other act that participants might believe is detrimental to their wellbeing and / or has the potential to / will infringe on their human rights / fundamental rights.
- ☐ Risk to the well-being and personal safety of the researcher.
- ☐ Administration of any substance (food / drink / chemicals / pharmaceuticals / supplements / chemical agent or vaccines or other substances (including vitamins or food substances) to human participants.
- ☐ Results that may have an adverse impact on the natural or built environment.

9. Further documents

Check that the following documents are attached to your application:

		ATTACHED	NOT APPLICABLE
1	Recruitment advertisement (if any)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	Informed Consent Form / Guardian Informed Consent Form	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3	Research Tool(s)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	Gatekeeper Letter	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5	Any other approvals required in order to carry out the proposed research study, e.g., institutional permission (e.g. school principal or company director) or approval from a local ethics or professional regulatory body.	<input type="checkbox"/>	<input checked="" type="checkbox"/>



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		Yes	No
ix.	Have you ensured that personal data and research data collected from participants will be securely stored for five years?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
x.	Does this research involve the deception of participants? If YES, describe the nature and extent of the deception involved. Explain how and when the deception will be revealed, and who will administer this debrief to the participants:	<input type="checkbox"/>	<input checked="" type="checkbox"/>

6 c. i. Are there any other ethical issues associated with the proposed research study that are not already adequately covered in the preceding sections?

☐ Yes ☒ No

If YES, specify (maximum 150 words).

6.c.ii Provide information on what measures will be taken in order to exclude or minimise ethical issues described in 6.c.i.

6 d. Indicate the Risk Rating.

☐ High ☐ Low

6 b. Choose the appropriate option

		Yes	No
i.	Will you obtain written informed consent form from all participants?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii.	Does the research involve as participants, people whose ability to give free and informed consent is in question?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii.	Does this research involve participants who are children under maturity age? If you answered YES to question iii, complete all following questions. If you answered NO to question iii, do not answer Questions iv, v, vi and proceed to Questions vii, viii, ix and x.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv.	Will the research tools be implemented in a professional educational setting in the presence of other adults (i.e. classroom in the presence of a teacher)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
v.	Will informed consent be obtained from the legal guardians (i.e. parents) of children?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
vi.	Will verbal assent be obtained from children?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
vii.	Will all data be treated as confidential? If NO, explain why confidentiality of the collected data is not appropriate for this proposed research project, providing details of how all participants will be informed of the fact that any data which they will provide will not be confidential.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
viii.	Will all participants /data collected be anonymous? If NO, explain why and describe the procedures to be used to ensure the anonymity of participants and/or confidentiality of the collected data both during the conduct of the research and in the subsequent release of its findings.	<input checked="" type="checkbox"/>	<input type="checkbox"/>



5 f. Relationship between the principal investigator and participants.

Is there any relationship between the principal investigator (student), co-investigators(s), (supervisor) and participant(s)? For example, if you are conducting research in a school environment on students in your classroom (e.g. instructor-student).

☐ YES

☒ NO

If YES, specify (use the space provided in the box).

6. Potential Risks of the Proposed Research Study.

6 a. i. Are there any potential risks, psychological harm and/or ethical issues associated with the proposed research study, other than risks pertaining to everyday life events (such as the risk of an accident when travelling to a remote location for data collection)?

☐ YES

☒ NO

If YES, specify below and answer the question 6 a.ii.

6 a.ii Provide information on what measures will be taken in order to exclude or minimise risks described in 6.a.i.

5 c. Participation & Research setting:

Clearly describe which group of participants is completing/participating in the material(s)/ tool(s) described in 5b above (use the space provided in the box).

The group of participants must work within the Micro, Small and Medium enterprise sector within Jamaica. The industry can be of any type, from manufacturing, retail etc. the participants will be from all levels with the various organizations.

5 d. Recruitment Process for Human Research Participants:

Clearly describe how the potential participants will be identified, approached and recruited (use the space provided in the box).

The participants will be approached during work time, face to face where possible or via email. Once the business is identified and the the participant is a legal work in the organization then he/she will be identified if willing to participate in the research exercise.

5 e. Research Participants Informed Consent.

Select below which categories of participants will participate in the study. Complete the relevant Informed Consent form and submit it along with the REAF form.

Yes	No	Categories of participants	Form to be completed
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Typically Developing population(s) above the maturity age *	Informed Consent Form
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Typically Developing population(s) under the maturity age *	Guardian Informed Consent Form

* Maturity age is defined by national regulations in laws of the country in which the research is being conducted.



5 b. Relevant Details of the Participants of the Proposed Research

State the number of participants you plan to recruit, and explain in the box below how the total number was calculated.

Number of participants

Non-probability convenient sampling will be utilized. Sample size formula= $[x^2 * np(1-p)]/d^2(N-1) + x^2p(1-p)$. The confidence level is 95% which is $x=1.96$. The margin of error is 5%, total population is 295 and the population portion P for the sample is 30%.

Describe important characteristics such as: demographics (e.g. age, gender, location, affiliation, level of fitness, intellectual ability etc). It is also important that you specify any inclusion and exclusion criteria that will be applied (e.g. eligibility criteria for participants).

Age range From To

Gender ☒ Female
☒ Male

Eligibility Criteria:

- Inclusion criteria

- Exclusion criteria

Disabilities

Other relevant information (use the space provided in the box):



4.b. Methods. The following study will involve the use of:

Method	Materials / Tools
Qualitative:	<input type="checkbox"/> Face to Face Interviews <input type="checkbox"/> Phone Interviews <input type="checkbox"/> Face to Face Focus Groups <input type="checkbox"/> Online Focus Groups <input type="checkbox"/> Other *
Quantitative:	<input type="checkbox"/> Face to Face Questionnaires <input checked="" type="checkbox"/> Online Questionnaires <input type="checkbox"/> Experiments <input type="checkbox"/> Tests <input type="checkbox"/> Other *

*If you have chosen 'Other' please Explain:

5. Participants:

5 a. Does the Project involve the recruitment and participation of additional persons other than the researcher(s) themselves?

- ☒ YES If YES, please complete all following sections.
☐ NO If NO, please directly proceed to Question [7](#).

3.b. Significance of the Proposed Research Study and Potential Benefits:

Outline the potential significance and/or benefits of the research (use the space provided in the box).

It is the intention of this research to know how social media and entrepreneurial orientation contribute to MSMEs performance level as there are still arguments about the benefits of using SM platforms in businesses. Social media adaptation and entrepreneurial orientation theories must be tested through the lens of covid 19, and to understand how MSMEs are changing to adapt to the present realities whilst presenting the challenges and the opportunities of these businesses in meeting stakeholders' needs. Social media and entrepreneurial orientation can help to address the issue of covid 19 effects on MSMEs. Theoretically, this research will bridge the gap in literature regarding the lack of knowledge about how businesses within the MSMEs industry are performing in covid 19 pandemic with disposal of social media and entrepreneurial orientation. There are limited studies about social media and entrepreneurial operating as one factor and its impact on MSMEs performance during the covid era especially in a third world region.

4. Project execution:

4.a. The following study is an:

- ☒ experimental study (primary research)
- ☐ desktop study (secondary research)
- ☐ desktop study using existing databases involving information of human/animal subjects
- ☐ Other

If you have chosen 'Other' please Explain:

3. The research project

3.a. Project Summary:

In this section fully describe the purpose and underlying rationale for the proposed research project. Ensure that you pose the research questions to be examined, state the hypotheses, and discuss the expected results of your research and their potential.

It is important in your description to use plain language so it can be understood by all members of the UREC, especially those who are not necessarily experts in the particular discipline. To that effect ensure that you fully explain / define any technical terms or discipline-specific terminology (use the space provided in the box).

Social media adaptation and entrepreneurial orientation are important aspects of Micro, Small and Medium enterprises (MSMEs) as they help to develop knowledge and understanding of how these businesses can reinvent processes and procedures to handle the uncertainties of crisis such as covid 19. This in turn helps with business strategies. However, the Covid-19 pandemic has raised major concerns as to how these organizations will survive and operate, given the restrictions which have impacted on cash flow, and other areas of operations. The crisis may be seen as negative but for MSMEs it presents a positive for new ideas to be developed and entrepreneurial orientation and social media adaptation are critical in the process. The topic of the research is 'Social media adaptation and entrepreneurial orientation impact of MSMEs performance during Covid 19: The Jamaican context'. This topic was chosen because I am intrigued but yet concerned about the business impact of these two areas, social media and entrepreneurial orientation, and their impact on business performance during this time of covid 19. In particular, to know the correlation of entrepreneurial orientation and social media on a firm's performance and to know how the purpose of these businesses are redefined, creating changes in activities and how they are responding to these environmental changes. After researching and reading information about the MSMEs impact on the Jamaican economy I have decided to focus on the following research questions. The first sub-question will look at what are the internal and external factors associated with the use of social media platforms, while the second question will examine the relationship between social media usage and entrepreneurial orientation and its impact on performance. The third question will look at how the type of MSME business influences the usage of social media platforms, whilst the fourth question will investigate the relationship between EO dimensions and MSMEs performance. Final question will look at how MSMEs activities have changed due to covid 19.



REAF_DS - Version 3.1



**UNICAF UNIVERSITY
RESEARCH ETHICS APPLICATION FORM
DOCTORAL STUDIES**

UREC USE ONLY:

Application No:

Date Received:

Student's Name: Dwayne Anthony Blidgen**Student's E-mail Address:** dblidgen18@gmail.com**Student's ID #:** R2005D10859358**Supervisor's Name:** Dr. Bilal Talal Jibai**University Campus:** Unicaf University Zambia (UUZ)**Program of Study:** UUZ: DBA Doctorate of Business Administration

Research Project Title: Social media adaptation and entrepreneurial orientation impact on Micro, Small and Medium enterprises (MSMEs) performance during Covid 19 pandemic: The Jamaican Context

1. Please state the timelines involved in the proposed research project:

Estimated Start Date: 30-Oct-2023

Estimated End Date: 28-Feb-2024

2. External Research Funding (if applicable):**2.a. Do you have any external funding for your research?**☐ YES☒ NOIf YES, please answer questions **2b** and **2c**.

2.b. List any external (third party) sources of funding you plan to utilise for your project. You need to include full details on the source of funds (e.g. state, private or individual sponsor), any prior / existing or future relationships between the funding body / sponsor and any of the principal investigator(s) or co-investigator(s) or student researcher(s), status and timeline of the application and any conditions attached.

none

2.c. If there are any perceived ethical issues or potential conflicts of interest arising from applying or and receiving external funding for the proposed research then these need to be fully disclosed below and also further elaborated on, in the relevant sections on ethical considerations later on in this form.

none

Appendix C: Gatekeeper Letter



UU_GL - Version 2.0



Gatekeeper letter

Address: Calle 159 #54-69 Bogota Colombia

Date: March 03, 2023

Subject: Micro Small Medium Enterprises Covid 19

Dear Participants,

I am a doctoral student at Unicaf University Zambia.

As part of my degree I am carrying out a study on Social media adaptation and entrepreneurial orientation impact on Micro, Small and Medium enterprises (MSMEs) performance during Covid 19 pandemic: The Jamaican Context.

I am writing to inquire whether you would be willing to allow access to your facility , with authorization to carry out interviews and questionnaires with staff about the impact of Covid-19 on their work processes for this research.

Subject to approval by Unicaf Research Ethics Committee (UREC) this study will be using online questionnaire to collect data. The aim of this research is to investigate the impact of social media adaptation and entrepreneurial orientation on MSMEs performance during covid 19 pandemic in Jamaica, in order to add to the wealth of information for MSMEs to survive during a crisis. Therefore the research will help to bridge the gap in literature as there are limited studies about social media and entrepreneurial operating as one fact and its impact on MSMEs performance during the covid era especially in a third world region. The title of the paper is 'Social media adaptation and entrepreneurial orientation impact on Micro, Small and Medium enterprises (MSMEs) performance during covid 19 pandemic: The Jamaican Context'. The name of my supervisor for this research is Dr. Bilal Talal Jibai.

The participants will be required to answer questions via an online questionnaire which will take maximum 30 minutes to complete.

Thank you in advance for your time and for your consideration of this project. Kindly please let me know if you require any further information or need any further clarifications.

Yours Sincerely,

Dwayne Blidgen

Student's Name: Dwayne Blidgen

Student's E-mail: dblidgen18@gmail.com

Student's Address and Telephone: Cl 159 @54-69 Bogota Colombia +573053915748

Supervisor's Title and Name: Dr. Bilal Talal Jibai

Supervisor's Position: Supervisor

Supervisor's E-mail: b.jibai@unicaf.org

Appendix D: UREC Approval Form



UREC Decision, Version 2.0

Unicaf University Research Ethics Committee Decision

Student's Name: Dwayne Anthony Blidgen

Student's ID #: R2005D10859358

Supervisor's Name: Dr Bilal Jibai

Program of Study: UU-DBA-900-3-ZM

Offer ID /Group ID: O55872G62748

Dissertation Stage: DS3

Research Project Title:

Social media adaptation and entrepreneurial orientation impact on Micro, Small and Medium enterprises (MSMEs) performance in central Jamaica during Covid 19 pandemic.

Comments: No comments.

Decision*: A. Approved without revision or comments

Date: 02 May 2023

*Provisional approval provided at the Dissertation Stage 1, whereas the final approval is provided at the Dissertation stage 3. The student is allowed to proceed to data collection following the final approval.

Appendix E: Reliability Test

➔ Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	50	98.0
	Excluded ^a	1	2.0
	Total	51	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.842	5

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
EO	15.5474	2.697	.545	.838
Technology	15.3983	2.624	.693	.799
Environment	15.9124	2.638	.583	.828
Organization	15.5724	2.449	.764	.777
Performance	15.5790	2.598	.665	.805

Appendix F: Validation Letter

DWAYNE ANTHONY BLIDGEN
Calle 159 #54-59 Bogota Colombia
305 3915748
dblidgen18@gmail.com

UNICAF University
Zambia

Dear Experts:

Re: Validation Request

I am a doctoral student here at UNICAF University Zambia and currently writing my thesis paper on **Social Media adaptation and entrepreneurial orientation impact on Micro, Small and Medium Enterprises (MSME's) performance during Covid 19 in central Jamaica.**

Therefore, in light of this I am respectfully requesting your assistance in validating this proposed questionnaire herewith attached. Your knowledge and experience will be of great help in developing a well structured questionnaire.

Your favorable approval will greatly help in completion of my research.

Yours sincerely

Dwayne Blidgen
R2005D10859358

Appendix G: Survey Instrument Validation rating scale

SURVEY INSTRUMENT VALIDATION RATING SCALE

Dissertation: Social media adaptation and entrepreneurial orientation impact on Micro, Small and Medium enterprises (MSMEs) performance in central Jamaica during Covid 19 pandemic.

Instruction: Please indicate your degree of agreement or disagreement on the statements provided below by encircling the number which corresponds to your best to your judgment.
1 – Strongly Disagree 2 – Disagree 3 – Undecided 4 – Agree 5 – Strongly Agree

Criteria	1	2	3	4	5
The items in the instrument are relevant to answer the objectives of the study.					
The items in the instrument can obtain depth to constructs being measured.					
The instrument has an appropriate sample of items for the construct being measured.					
The items and their alternatives are neither too narrow nor limited in its content.					
The items in the instrument are stated clearly.					
The items on the instrument can elicit responses which are stable, definite, consistent and not conflicting.					
The layout or format of the instrument is technically sound.					
The responses on the scale show a reasonable range of variation.					
The instrument is not too short or long enough that the participants will be able to answer it within a given time.					
The instrument is interesting such that participants will be induced to respond to it and accomplish it fully.					
The instrument as a whole could answer the basic purpose for which it is designed.					

Comments and Suggestions:

Signature over Printed Name

Adopted: Ryan Michael F. Oducado West Visayas State University, College of Nursing
rmoducado@wvsu.edu.ph

Appendix H: Calculation for Validation of questionnaire

Domain Knowledge	Experts										
Item	1	2	3	4	5	6	7	8	Experts in agreement	I-CVI	UA
1	4	4	5	5	4	4	4	4	8/8=1	1	1
2	4	5	5	5	5	5	5	5	8/8=1	1	1
3	4	4	5	4	5	4	5	4	8/8=1	1	1
4	5	5	4	4	4	4	4	4	8/8	1	1
5	4	4	4	4	4	5	4	4	8/8=1	1	1
6	4	4	3	3	3	4	5	4	$\frac{5}{8}=.625$.625	0
7	4	4	4	5	4	5	4	4	8/8=1	1	1
8	5	4	4	5	5	5	4	4	8/8=1	1	1
9	4	4	4	5	4	5	4	4	8/8=1	1	1
10	3	4	3	3	2	2	4	4	$\frac{3}{8}=.375$.375	0
11	4	4	3	4	3	3	4	4	$\frac{5}{8}=.625$.625	0
	9/11=.82	10/11=.91	8/11=.72	9/11=.82	8/11=.73	9/11=.82	10/11=.91	10/11=.91		9.625/11=.875	8/11=.72

Proportion relevance = $6.56/8 = 0.82$ UA is Universal Average * **S-CVI Ave = $9.625/11 = 0.88$**

Appendix I

03/01/2025, 22:22

SurveyMonkey Design :

Social Media and Entrepreneurial Orientation



Add collaborators

SUMMARY → DESIGN SURVEY → COLLECT RESPONSES → ANALYZE RESULTS → PRESENT RESULTS

Preview survey

+ Build

Style

Logic

Question bank

Options

Format



Page Logic

More Actions

UPGRADE TO ADD A LOGO

Social Media and Entrepreneurial Orientation

EDIT

Covid 19: SM and Entrepreneurial Orientation

You are invited to complete the following questionnaire which aims at examining Social Media adaptation and entrepreneurial orientation impact on Micro, Small and Medium Enterprises (MSME's) performance during Covid 19 in central Jamaica

The questionnaire should only take 5 - 10 minutes to complete and it includes -- questions. Your responses are anonymous and will not be identified with you in any way.

By participating in this survey, you are indicating that you understand that your responses are anonymous and will not be identified with you in any way. You may skip any question that you find intrusive or offensive, but it will help me if you respond to as many questions as you feel comfortable with.

You have the right to withdraw at any stage (prior or post the completion) of the research without any consequences and without providing any explanation. In this case, the data collected will be deleted.

Please complete all questions and make sure you follow the instructions for each

* 1. What is your gender?

☐ Female

☐ Male

☐ Other (specify)

03/01/2025, 22:22

SurveyMonkey Design :

* 2. What is your age group?

☐ Under 18

Updating page ...

☐ 18-24☐ 25-34☐ 35-44 Survey automatically shared

✕

☐ 45-54

Saving changes...

☐ 55-64☐ 65+

* 3. What is your position ?

☐ Owner☐ Manager☐ Supervisor☐ Employee with seniority role

* 4. Indicate the number of employees in the business

☐ 1 - 5☐ 6 - 20☐ 21- 50

* 5. Which of the following best describes the principal industry of your organization?

* 6. Indicate Firms level of social media utilization

☐ Minimal☐ Basic

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SurveyMonkey Design

☐ Moderate☐ Extensive

Updating page ...

* 7. Which social media platform is mainly used by the company?

☐ Facebook☐ Twitter☐ Instagram☐ Whatsapp☐ LinkedIn☐ Youtube☐ Google+☐ Other Survey automatically shared ×

Saving changes...

* 8. Indicate the number of years the business has been using social media

☐ 0-5☐ 6-10☐ 11 - 15☐ 15 and above

* 9. Does your business feel repercussions due to the Covid-19 pandemic outbreak?

☐ Yes, I experience lost due to supply chain disruption☐ Yes, I experience a loss of clients☐ Yes, I experience loss of goods and services☐ Yes, I experience a loss in revenue☐ Yes, I experience reduction in demand for goods and services

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SurveyMonkey Design :

☐ No, I don't experience any repercussion at the moment

☐ No assessment is possible at the present moment

Updating page ...

☐ Other

* 10. Indicate the budget allocated for social media usage

 Survey automatically shared

X

☐ 0 - 25%

Saving changes...

☐ 26 - 50 %

☐ Above 50%

11. How do you rate technology and innovation in your company?

	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
We favor strong emphasis on leaders using technology in daily tasks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Innovations about our product lines are encouraged	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My business has new lines of products marketed in the past 2 years	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
We affirm/emphasize risk taking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
We look at ways of presenting new product	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
We take bold steps in achieving our objectives	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
We seek to get into the market before competition	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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SurveyMonkey Design :

	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree
use					
Social media integration is clear in my work processes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Access to use social media is easy for me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I find it easy to choose the right social media platform to use in my business	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Updating page ...

Survey automatically shared

Saving changes...

13. How do you rate social media in the your environment?

	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
In my industry there's a sense of government support to use social media	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Government support would influence social media adoption in my business	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Government regulations could help in social media adoption my business	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel motivated by the government to adopt social media for my business	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Competitive pressure in my industry drives social media usage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Social media enhance my	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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SurveyMonkey Design :

Strongly disagree Disagree Neutral Agree Strongly Agree

business
competitively

Updating page ...

Social media
adoption helps
the business to
generate higher
profit

☐☐☐☐☐

Social Media
adoption
enhance the
firms ability to
out perform
competitors



Survey automatically shared

☐☐☐

Saving changes...

A level of
uncertainty
drives the need
to use social
media in my
organization

☐☐☐☐☐

Environmental
uncertainties
impacts how
much is
invested in
social media
usage

☐☐☐☐☐

Social media
adoption helps
with dealing
with complex
changes

☐☐☐☐☐

High
environmental
uncertainty
affects social
media adoption
in my business

☐☐☐☐☐

14. Rate social media usage in your organization?

Strongly
disagree

Disagree

Neutral

Agree

Strong agree

I support the use of
social media
platforms

☐☐☐☐☐

I am interested in
adopting Social

☐☐☐☐☐

03/01/2025, 22:22

SurveyMonkey Design :

	Strongly disagree	Disagree	Neutral	Agree	Strong agree
media in my organization					
I see social media adoption as important	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Resources/perceived costs affect how social media adoption	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The perceived benefits of social media influence how it is utilized	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The size of our organization impacts the usage of social media	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The cost of various social media platforms determines which platforms are used	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In my organization employees experience influence how social media is used	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Employees are skillful when using social media to perform tasks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Employees skills in using social media affect how social media adoption is done in my organization	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

15. How do you rate Firms performance and Social media?

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Social Media adoption/entrepreneurial skills have helped increase sales volume	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

03/01/2025, 22:22

SurveyMonkey Design :

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Social media/Entrepreneurial Skills have improved sales transactions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The use of social media/entrepreneurial orientation skills enhance customer satisfaction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There is increased customer retention/loyalty through the use of social media/entrepreneurial skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Social media/entrepreneurial skills increased product and services awareness during Covid 19	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Social media/entrepreneurial orientation improve customer engagement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There's increased market share through the use of social media/entrepreneurial skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

New Question

or Copy and paste questions

Done

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