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CHRISTIAN SERVICE UNIVERSITY COLLEGE, KUMASI, GHANA

IMPLICATIONS OF MONITORING AND EVALUATION SYSTEMS FOR SMALL AND MEDIUM-SIZED ENTERPRISES IN SELECTED METROPOLIS IN GHANA

DANIEL AGYAPONG

2023

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IMPLICATIONS OF MONITORING AND EVALUATION SYSTEMS FOR SMALL AND MEDIUM-SIZED ENTERPRISES IN SELECTED METROPOLIS IN GHANA

BY

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(16015931)

DISSERTATION SUBMITTED TO THE DEPARTMENT OF PLANNING AND DEVELOPMENT OF THE FACULTY OF HUMANITIES; CHRISTIAN SERVICE UNIVERSITY COLLEGE, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER OF SCIENCE DEGREE IN MONITORING AND EVALUATION

SEPTEMBER 2023

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DECLARATION

Candidate's Declaration

I hereby declare that this thesis is the result of my own original work and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature ……. Date 10-10-2023

Name: Daniel Agyapong

Supervisor's Declaration

I hereby declare that the preparation and presentation of this thesis were supervised in accordance with the guidelines on supervision of thesis laid down by the Christian Service University College

Supervisor's Signature ……. Date …….

Name: Dr Bernard Adjei-Poku

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ABSTRACT

The study's purpose was to examine how monitoring and evaluation systems affect small and medium-sized businesses in selected Ghanaian metrolopises. The objectives were to evaluate the evaluation system in the chosen SMEs, evaluate the monitoring system in the chosen SMEs, test the impact of monitoring and evaluation systems on the sustainability of the business, analyze the impact of monitoring and evaluation systems on the resilience of the business, and examine the impact of monitoring and evaluation systems on the growth of the business. The research design used was explanatory. Five metropolises were chosen for the study, including Sunyani, Accra, Kumasi, Cape Coast, and Tamale. The sample size for the study was 423 SMEs. The primary data collection tool was a self-administered questionnaire. Data was collected, cleaned, and coded before being entered into statistical software programs like SPSS and SmartPLS. For the study's key findings, it was noted that the SMEs that took part in the study had monitoring and evaluation practices in place. The third and fourth objectives showed that monitoring and evaluation systems had a significant effect on both business resilience and business sustainability, respectively. It was discovered that monitoring and evaluation systems had a large and favourable effect on business growth and the digitalisation business respectively, for objectives 5 and 6. The study recommended that managers of SMEs within the selected area improve upon their monitoring and evaluation systems. This will increase the effect it will have on their resilience, growth, sustainability and digitalisation.

KEYWORDS: Monitoring, Evaluation, Small and Medium-sized Enterprises

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DEDICATION

This work is especially dedicated to my children.

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CHAPTER ONE

INTRODUCTION

Background to the Study

It is impossible to overstate the importance of Small and Medium-sized Enterprises (SMEs) to a nation's economy. They have been discovered to help with inventions, business startups, employment creation, income generating, economic growth, and the fight against poverty. The World Bank estimates that SMEs account for around 90% of businesses, 50% of all enterprises worldwide, and 40% of GDP in emerging economies. According to the World Bank, SMEs produce seven out of ten formal jobs worldwide. According to an European Union Report (2023), SMEs account for 99% of all businesses and 75% of all jobs in the EU. They contribute between 60% and 70% of the formal employment in emerging nations. It is projected that Sub-Saharan Africa (SSA) will contribute 80% of the total (UNCTAD, 2017). Statistics indicate over 90% of firms in the country are SMEs, contributing about 80% to employment and 60% to Ghana's gross domestic product (Sasu, 2022). This type of business organization has been found in all sectors of the economy in Ghana.

Given their importance, policymakers have over the years implemented various policies to support the starting, managing and scaling up of SMEs in the country. Among these measures include the re-organisation of the NBSSI office into the GEA, the NEIP programme and the subsequent passing of the SME policy. Another initiative by the government includes the youth in agriculture (Jumpah, Owusu-Arthur & Ampadu-Ameyaw, 2022). Additionally, there have been various internationally funded projects in Ghana to support SMEs including COTVET-Training and Skills Development, Youth Employment Agency (YEA), Ghana Social Opportunity Project (GSOP) (Ampadu-Ameyaw, Jumpah, Owusu-Arthur, Boadu, & Fatunbi, 2020).

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A number of the interventions for SMEs' growth and survival have been to provide business development services with a major emphasis on financing. The non-financial issues have centred on marketing, management and production. The goal of these interventions has been to deal with the challenges including lack of access to the market, poor financial management, and inefficiencies in resource utilization due to managerial infractions that include monitoring, evaluation and controlling.

Monitoring is a systematic and continuous process of tracking processes and progress of an ongoing programme or project to compare how well it is being implemented against expected results. Studies including Maggi, FrancescoMarino, Dumas and Ghidini (2014) posit that reactive compliance and predictive monitoring influence business processes. Weinzierl, Dunzer, Tenschert, Zilker and Matzner (2021), Wolf, Brunk and Becker (2021) opined that predictive business process monitoring is essential in predicting business process deviations.

Furthermore, there are several forms of monitoring relevant to enhancing business processes including process, context, beneficiary, financial and organisational monitoring (IFRC Guide, 2011). The essence of monitoring is to predict or identify the actual or potential success or failure of a project ahead of time to devise a mitigation strategy to lead to its successful completion. Monitoring spurs the devising of results indicators, impact indicators, setting targets, and baselines to guide business operations (Wellons, 2002). Monitoring precedes evaluation.

Evaluation is the routine, methodical, objective assessment of a project's relevance, performance, efficiency, effectiveness, impact, and sustainability with a view to informing future projects, policy, and practice. The importance of assessment in business, including formative, process, result, summative, and impact evaluation, is

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discussed in studies (Birgili, 2021). Nduhura, Natamba, Muhairwe, Wicky, and Ssempebwa, (2022) opined that evaluation is instrumental to projects and programmes of an organization.

The IFRC Guide (2011) provided other forms of evaluation based on time (ex-post, ex-ante, mid-term and final evaluation), who (self-evaluation, independent, participatory and joint evaluation), and methodology (real-time, meta, thematic and cluster evaluation). As Davis (2014) and Haas and Guzman (2019) put it, evaluation helps re-examine prior assumptions and constraints of the project to check whether they were realistic. Business organizations operate largely in objective and realistic assumptions.

Monitoring and evaluation provide data for management decision-making, enabling them to track the progress of an ongoing project or able to assess the results of a project in terms of its inputs, output, outcome and impact (Kabeyi, 2019). It aids the continuous examination of business performance from the perspectives of their balance sheet, return on equity, return on investment and market share (Wellons, 2002). The elements of M&E including relevance, efficiency, effectiveness, and sustainability are critical for enterprise and programme success. These are catalysts for business management and leadership. Drawing on these reasons, the purpose of the study was to examine the implications of monitoring and evaluation systems for Small and Medium-sized Enterprises in selected metropolis in Ghana.

Statement of the Problem

SMEs continue to be the foundation of the economies of the majority of developing nations, including Ghana. They struggle to maintain growth and survival despite having made a significant contribution to these countries' growth and

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development. This situation has been compounded by the advent of the COVID-19 pandemic and its associated effects including lockdowns and business restrictions. The pandemic was purported to have eroded the profit of an estimated 90% of SMEs in Sub-Saharan Africa as a result of sales losses and supply chain truncation (IFC, 2021). This situation includes SMEs in Ghana. The problem of enterprise sustainability existed in pre-pandemic times although no accurate data exist on the number that make it through the first ten years. This is amidst the fact that numerous interventions and programmes have been introduced by policymakers to support the growth and expansion of SMEs.

SMEs in developing countries like Ghana make a substantial contribution to the economy and society, but they are confronted with various challenges (ITC, 2019). Some of these challenges are poor performance, low growth, continuity issues and the like. In addition, poor management, lack of cash, lower volume per customer and lack of adequate SME insurance, according to the Rural Enterprise Programme (2017), prevent SMEs from developing and functioning successfully. In an attempt to solve these performance setbacks, numerous studies have been conducted to arrive at factors that could positively influence the performance of these businesses for which monitoring, and evaluation is not an exception.

Studies have looked at how monitoring and evaluation systems are instrumental in project management and larger firms other than SMEs (Mokua, & Kimutai, 2019; Bogere, Okoche, & Eremugo, 2021). As an illustration, Mokua and Kimutai (2019) evaluated how M&E systems affected the success of Public Private Partnership (PPP) projects in Nairobi, Kenya. According to the study, M&E practices and PPP project performance are positively correlated. Based on the theory of change, it is proposed that a monitoring and evaluation intervention by SMEs will have a favourable impact on the performance of the firm, resulting in its sustainability. As a result, the study

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examines how monitoring and assessment methods for SMEs affect their various outcomes, including growth and sustainability, among others.

Purpose of the Study

The purpose of the study was to examine the implications of monitoring and evaluation systems for Small and Medium-sized Enterprises in selected metropolis in Ghana.

Research Objectives

The objectives of the study were to:

1. analyse the monitoring systems in the selected SMEs,
2. assess the evaluation system in the selected SMEs,
3. test the effect of monitoring and evaluation systems on SMEs' business sustainability,
4. analyse the effect of monitoring and evaluation systems on SMEs' business resilience,
5. examine the effect of monitoring and evaluation systems on SMEs' business growth, and
6. analyse the effect of monitoring and evaluation systems on SMEs' digital business model.

Research Questions

The study was guided by the following research questions:

1. What are the monitoring systems in the selected SMEs?
2. What are the evaluation systems in the selected SMEs?
3. What is the effect of monitoring and evaluation systems on SMEs' business sustainability,

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4. What is the effect of monitoring and evaluation systems on SMEs' business resilience,
5. What is the effect of monitoring and evaluation systems on SMEs' business growth, and
6. What is the effect of monitoring and evaluation systems on SMEs' digital business model.

Research Hypotheses

There were four hypotheses formulated based on extant literature. From the extant works and the remaining research objectives, it was hypothesized that there is a significant positive relationship between:

H_1: monitoring practices and SMEs' sustainability.

H_2: evaluation systems and SMEs sustainability.

H_3: monitoring systems and digital business model.

H_4: evaluation systems and digital business model.

H_5: monitoring systems and SMEs resilience.

H_6: evaluation systems and SMEs' resilience.

H_7: monitoring systems and SMEs growth.

H_8: evaluation systems and SMEs growth.

Significance of the Study

The study offers information about how small businesses operate in Ghana. It suggests theoretical, practical, and policy expertise for running the nation's small businesses. At the policy level, an effective M&E system informs policies that support

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these businesses, and foster job creation, income generation and poverty reduction. The study is significant for the government as its findings aid policymakers in introducing targeted M&E programmes to address small businesses' challenges. The study is crucial for the government to create a welcoming entrepreneurial ecosystem to assist the growth of small businesses in the nation. Regarding the relevance to practice, the study suggests practical insights into the relevance of M&E for small businesses including how it aids these businesses to track their progress and identify areas of improvement.

The study provides a guide to the owner/manager to identify potential risks enabling them to identify areas and activities of potential risks and how to mitigate such risks. The study makes a theoretical contribution to the general body of knowledge of the adaption and integration of evolving business strategies and insights into the operational framework of small businesses. Adapting the theory of change enables owners/managers to stay agile and responsive in a dynamic business environment by fostering innovation, and improved processes and products. The study through the theory of change provides the foundational framework that guides the M&E activities of small firms, ensuring that their activities, outputs, and outcomes are in tandem with their goals, enabling them to adjust for optimal performance.

Delimitation

The study covered SMEs in selected cities in Ghana including Cape Coast, Takoradi, Accra, Kumasi, Tamale, and Sunyani. The reason is that the SME space in the country is extremely large and geographically dispersed with many not registered. The study employed Teel's (2002) classification of SMEs for its SME definition. That is, petty trading has less than 5 workers, small businesses with 5 to 29 employees and medium-sized businesses (30 to 99 employees). Therefore, any business with several employees ranging from 0-100 was considered an SME for the study.

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Limitations

The study limitations emanated from factors beyond the control of the researcher. This was a self-administered questionnaire and the tendency that an owner/manager may not have answered the questionnaire herself cannot be controlled by the researcher. The study relied on self-report questionnaires. In this case, there's the risk of response bias due to participants' subjective interpretation or the unwillingness to provide accurate information. Despite the quality control measures and validation of the instrument, there still may be inherent limitations in the accuracy and reliability of the data collected.

Organization of the Study

There were five chapters in the study. Chapter One contains the background information, research topic, purpose, goals, significance, and study scope. The conceptual framework and theoretical, conceptual, and empirical reviews are all included in the second chapter. The research design, strategy, sampling approach, research instrument, data collection method, analytical technique, and ethical considerations are all covered in chapter three. Chapter 4 presents the findings and related discussion. Chapter 5 presents the summary or key findings, conclusions drawn from the study's findings, recommendations, and suggestions for further research on the subject.

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CHAPTER TWO

LITERATURE REVIEW

Introduction

The chapter examines the body of existing knowledge in the fields. It covers the theoretical, empirical, and ultimate conceptual framework in line with extant literature.

Theoretical Review

Theory of Change

According to Weiss (1995), the theory of change is a set of presumptions that explain both the relationship between program activities and outcomes that take place at each stage along the route and the mini-steps that lead to the long-term goal. The theory assists managers in thinking through and outlining the presumptions and enablers, such as monitoring and evaluation (White, 2018), that surround their initiatives and explains why those activities will result in a desired end (Rogers, 2014). Meaning that SMEs are more likely to be able to sustain themselves when these enablers are present. Ahadzie and Boateng (2021) examined the connection between evaluation methods and performance outcomes of SMEs in Tema based on their argument that monitoring, and evaluation are facilitators surrounding a project. The study discovered that SMEs with frequent evaluation systems outperform those without them in terms of their financial and operational success.

The Theory of Change (ToC) approach is widely used in development practice for a variety of applications, including M&E, advocacy and communication, and resource mobilization (Anderson et al., 2015; Bardach, 2015; Weiss, 1995). ToC is used in program design to help stakeholders understand the logical framework of the program, including its inputs, activities, outputs, and outcomes. In M&E, ToC provides a framework for tracking progress, measuring impact, and identifying areas for

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improvement. White (2018) stated that it is important to assess factors that create weak or missing links in business operations or practices. This assessment will possibly lead to rigorous participation and knowledge acquisition to improve business operations.

A more recent development in the theory of change is the use of a complexity-informed approach. This approach recognizes that programs and interventions operate in complex systems, where there are often multiple interacting factors that affect outcomes. This approach acknowledges the inherent uncertainty and unpredictability of complex systems, and it encourages a more iterative and adaptive approach such as monitoring and evaluation to program planning and implementation (Davies *et al*., 2018).

The approach tries to push management to create distinct strategies and investigate whether the plans are backed up by data. The theory of change, according to White (2018), is a unified framework for addressing challenges such as "not simply the question of what works, but also how, where, for whom, and at what cost." All practical manuals emphasize the ToC's role in defining success indicators that may later serve as the basis for monitoring. Rehfuess *et al*. (2018) offer a more formal taxonomy of ToC approaches, differentiating between approaches used prior to interventions and those intended to support adaptive learning during interventions, more or less iteratively; and approaches based more on describing the system in which interactions between participants, the intervention, and its context take place as opposed to those focused on the causal pathways leading from the intervention to multiple outcomes.

The theory of change helps to identify the most important outcomes and impact of a program or intervention, which can then be monitored and evaluated to assess progress toward the desired goals. The process of monitoring involves collecting and

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analysing data on program inputs, activities, outputs, outcomes, and impact. Evaluation involves using this data to assess the effectiveness of the programme or intervention and to make recommendations for future improvements. One of the strengths of the theory of change is that it encourages stakeholders to think critically about the assumptions and underlying beliefs that inform their program objectives. This process of reflection helps to ensure that program objectives are based on a clear understanding of the problem being addressed and the context in which the programme is being implemented (Patton, 2018).

Additionally, the theory of change enables stakeholders to identify potential barriers to success and to develop strategies for addressing these barriers (Wholey *et al*., 2010). Another key aspect of the theory of change is the use of performance indicators to measure progress toward program objectives. These indicators should be specific, measurable, and relevant to the program objectives, and they should be monitored regularly to assess progress toward achieving the desired outcomes. In addition to quantitative indicators, the theory of change also emphasizes the importance of using qualitative data to capture the experiences and perspectives of program participants and other stakeholders (UNICEF, 2016). One criticism of the theory of change is that it can be overly simplistic and linear, failing to capture the complexity and unpredictability of real-world programs and interventions (Davies *et al*., 2018).

Overview of Small and Medium-Scale Enterprises

The most frequently used criterion in Ghana for distinguishing SMEs is the number of workers that a company has. The Ghana Statistical Service categorised medium-sized firms with more than ten workers as such in 2005, whereas small businesses with fewer than ten (10) employees were categorized as such. Kayanuala and Quartey (2000) used fixed asset value to estimate a corporation's size.

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Organizations like the Ghana Statistical Service and the National Board for Small-Scale Industries define SMEs as companies with less than 30 employees.

According to the Ghana Statistical Service Industrial Census of 1987, micro- and small-scale enterprises employed up to nine people, medium-sized businesses employed 10 to 29 persons, and large-scale businesses employed 30 or more people (Fuseni, 2015). The quantity and price of fixed assets serve as the foundation for the National Board for Small-Scale Industries' definition of Micro and Small Enterprises. Thus, companies with fewer than five employees and fixed assets worth less than $10,000 are referred to as micro firms. Small enterprises have fixed assets under $100,000 and 6-29 employees, excluding land and buildings. A small business is one that employs less than 29 people.

Osei *et al*. categorizes SMEs into three groups (1993). They are Micro (fewer than six employees), Very Small (between six and nine employees), and Small (between ten and thirty-nine employees). Teal (2002) conducted his research using the criteria offered by the Regional Project on Enterprise Development Ghana. Small companies with less than five workers, small businesses with five to 29 employees, medium-sized businesses (30 to 99 employees), and large businesses with one hundred or more employees were the different categories for businesses. The study focused on SMEs in Cape Coast, Takoradi, Accra, Kumasi, Tamale and Sunyani. These towns were chosen because they are the regional capitals in their respective regions and hubs for all commercial trades in the regions in question.

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Empirical Review

The section outlines the review of empirical works and the gaps in the literature. It provides the basis for the study questions. The section is divided into various sub-topics in line with the research objectives.

Analysing the Monitoring Systems in Selected SMEs

Small and medium-sized businesses (SMEs) are crucial to the economic growth of many nations, including Ghana (Surya et all., 2021). Monitoring systems are crucial for SMEs as they help businesses track their performance, make informed decisions, and identify areas for improvement. However, the effectiveness of monitoring systems for SMEs in Ghana's metropolises is a topic that requires empirical analysis to understand the current landscape and identify gaps that need to be addressed. This review aims to analyse empirical studies on monitoring systems for SMEs in selected metropolises in Ghana, providing insights into the existing literature and identifying key areas for further research. Monitoring systems are critical for SMEs since they aid in the tracking and evaluation of different areas of business operations such as financial performance, manufacturing processes, sales, and customer satisfaction. Monitoring systems help small and medium-sized businesses to gather and analyse data, discover areas for development, and make educated choices (Kim, Jung, Choi & Ahn, 2019). They also offer insights into the overall health and performance of the firm, assisting SMEs in identifying and mitigating risks, optimizing resources, and increasing competitiveness.

Boateng and Asare (2020) investigated the role of government and the regulatory environment in supporting SMEs' monitoring systems in Kumasi, Ghana's largest city. According to the findings of the study, SMEs encounter difficulties in meeting regulatory requirements such as tax legislation and financial reporting

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standards, which impair the efficacy of their monitoring systems. The study emphasized the need for more supporting government policies and laws to improve the monitoring systems of SMEs. A study conducted by Agyapong and Amoako (2019) examined the adoption and utilization of monitoring systems by SMEs in Accra, the capital city of Ghana. The study found that while SMEs are aware of the benefits of monitoring systems, many face challenges in adopting and effectively utilizing technology due to factors such as a lack of financial resources, inadequate technical skills, and low awareness of available options.

In Tema, a significant industrial city in Ghana, Mensah and Owusu (2021) looked into how organizational culture affected the efficacy of monitoring systems for SMEs. The study found that SMEs with a positive organizational culture that encourages openness, accountability, and learning tend to have more effective monitoring systems compared to those with a negative organizational culture. Based on the studies reviewed, it is evident that monitoring systems for SMEs in selected metropolises in Ghana face various challenges related to technology adoption, regulatory environment, and organizational culture. Another study by Ates, Garengo, Cocca, and Bititci (2013) revealed that strategic goals should be matched with personal objectives in order to promote appropriate behavior (Otley, 1999; Aguinis, 2009). The list of metrics should be balanced in that it should include both monetary and non-monetary metrics, internal and external measures, efficiency and effectiveness metrics, as well as metrics that both quantify and do not quantify what has been accomplished. Management practices, including as KPI evaluation and supplier and customer monitoring, are useless unless they are linked to a thorough examination of competitors and the macro environment. According to the study, SMEs' effectiveness in today's volatile markets depends on their ability to engage in environmental scanning

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operations to understand the behaviour of external stakeholders and trends (Beal, 2000; Qiu, 2008).

Assessing the Evaluation System in the SMEs

Small and medium-sized enterprises (SMEs) play an important role in the global economy, generating jobs, innovating, and driving economic progress (Manzoor, Wei, & Siraj, 2021). As these businesses confront growing hurdles in today's competitive business world, having effective assessment processes in place to measure their performance and make informed choices becomes critical. A study by Mensah and Asante (2020) investigated the challenges faced by SMEs in Accra, the capital city of Ghana, in implementing effective evaluation systems. The study identified challenges such as a lack of clear evaluation objectives, limited availability of relevant data, and inadequate evaluation skills among SME management. The study emphasized the need for capacity-building programs and access to relevant data to enhance the effectiveness of evaluation systems for SMEs. They concluded that evaluation systems for SMEs in selected metropolises in Ghana face challenges related to criteria and methods used, lack of clear objectives, and limited access to relevant data.

Another study by Ahadzie and Boateng (2021) explored the relationship between evaluation systems and performance outcomes of SMEs in Tema, a major industrial city in Ghana. The study found that SMEs that had well-defined evaluation systems and regularly evaluated their performance tended to have better financial and operational performance compared to those that did not. The study highlighted the positive impact of effective evaluation systems on SMEs' performance outcomes but the findings highlight the need for further research to explore potential solutions and strategies to enhance evaluation systems for SMEs in Ghana. Future research could focus on developing evaluation frameworks that consider both financial and non-

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financial indicators, conducting capacity-building programs to improve evaluation skills among SME management, and testing the effects of monitoring systems on SMEs' sustainability and its effects on evaluation.

Chileshe and Dachino (2018) investigated the use of financial parameters in assessing the financial performance of construction SMEs. Financial measures such as liquidity ratios, profitability ratios, and efficiency ratios were discovered to be extensively utilized to analyse financial performance in SMEs. Similarly, Goyal *et al*. (2020) did a study on the financial evaluation of SMEs in the manufacturing sector and discovered that financial measures such as the current ratio, quick ratio, and return on equity were useful in assessing the financial performance of SMEs.

In conclusion, employee productivity and performance are important to the success of small and medium-sized businesses. According to studies, SMEs must evaluate employee performance, provide feedback, and identify training and development requirements. Morley *et al*. (2020), for example, did a study on performance assessment in SMEs and discovered that performance appraisal systems, 360-degree feedback, and Key Result Areas (KRAs) are excellent techniques for evaluating employee performance in SMEs. They discovered that providing frequent performance assessments and feedback to employees aided in aligning employee performance with company goals and enhancing overall productivity. As a result, this study has hypothesized to analyse the evaluation systems among SMEs in Ghana.

Monitoring Systems and SMEs' Sustainability

Small and medium-sized enterprises (SMEs) play an important role in economic development, and their long-term viability is critical for growth. The deployment of monitoring systems is a critical component that might affect the sustainability of SMEs.

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The use of technology and processes to track and manage many elements of SMEs' activities, including production, sales, finance, and environmental effect, is referred to as monitoring systems. In recent years, there has been increased interest in understanding the impact of monitoring systems on the long-term viability of SMEs, and various empirical studies have been done to study this link. Let us look more closely at some of this research. Evidence from a Field Experiment" (Smith *et al*., 2018).

Al-Swidi, Gelaidan, and Saleh (2021) conducted a field experiment to examine the effect of implementing monitoring systems on the sustainability of SMEs. The researchers randomly assigned a group of SMEs to receive monitoring systems that track energy usage and waste generation, while another group did not receive any monitoring systems and served as the control group. The study found that SMEs with monitoring systems significantly reduced their energy usage and waste generation, leading to improved sustainability performance compared to the control group. The researchers concluded that monitoring systems can positively impact SMEs' sustainability by facilitating better resource management and environmental performance.

Another study looked at the link between monitoring systems and SMEs' financial sustainability (Gupta *et al*., 2019). The researchers surveyed a sample of SMEs to get information on their monitoring system adoption and usage, as well as financial performance metrics such as profitability and cash flow. The study discovered a link between the use of monitoring systems and the financial sustainability of SMEs. When compared to those who had not established such systems, SMEs that had installed monitoring systems performed better financially. Monitoring systems, according to the researchers, can improve the financial sustainability of SMEs by providing fast and reliable information for decision-making and performance monitoring.

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In addition, Chen *et al*. (2010) investigated the significance of monitoring systems in increasing the operational sustainability of SMEs. In-depth interviews were performed with SME owners and managers to collect qualitative data on their experiences with monitoring systems. The study revealed that monitoring systems significantly improve the operational sustainability of SMEs.

Based on the data from the analysed studies, it is possible to infer that monitoring systems improve the sustainability performance of SMEs. SMEs that use monitoring systems have better sustainability practices and performance than those that do not. However, challenges such as lack of knowledge, budgetary restrictions, and technical skills must be overcome for SMEs to utilize monitoring systems. More studies may be conducted to understand the particular processes via which monitoring systems impact SMEs' sustainability practices and performance, as well as the role of contextual variables in creating this connection. Furthermore, based on the theory of change, the monitoring system implemented by SMEs is seen as a set of interventions that can help these businesses enhance their sustainability. Based on these factors, this current study proposed to assess the relationship between monitoring systems in SMEs and their impacts on the sustainability of SMEs in Ghana.

Evaluation Systems and SMEs Sustainability

Small and Medium-sized Enterprises (SMEs) rely heavily on evaluation to analyse and improve their sustainability practices. SMEs may measure their sustainability performance, identify areas for improvement, and adopt adjustments to improve their sustainability practices via evaluation. We investigate the available literature in this empirical study to test the influence of appraisal on the sustainability of SMEs, based on publications published between 2010 and 2023. Wong (2014) explored the influence of assessment on the sustainability performance of SMEs in this

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study. The authors carried out a quantitative analysis utilizing survey data from 200 SMEs from various industries.

The findings demonstrated that SMEs who undertook frequent reviews of their sustainability procedures performed better than those who did not. The authors concluded that assessment affected SMEs' sustainability performance favourably by offering feedback and pushing continual development. In another study by Kim *et al*. (2017), the authors evaluated the effectiveness of sustainability evaluation tools for SMEs. The study involved a mixed-method approach, including interviews and surveys with 150 SMEs in the manufacturing sector. The results showed that SMEs that used sustainability evaluation tools had higher sustainability performance compared to those that did not. The authors concluded that sustainability evaluation tools were effective in helping SMEs assess and improve their sustainability practices.

Also, a study by Garcia *et al*. (2016) aimed to identify the barriers and facilitators of sustainability evaluation adoption among SMEs. The authors conducted a qualitative study involving interviews with 50 SMEs from various industries. The findings revealed that barriers to sustainability evaluation adoption included a lack of awareness, limited resources, and perceived complexity of evaluation processes. However, facilitators such as leadership support, stakeholder pressure, and perceived benefits of sustainability practices were identified. The authors concluded that addressing these barriers and leveraging facilitators could promote the adoption of sustainability evaluation among SMEs.

In a longitudinal study by Chen *et al*. (2019), the authors investigated the long-term effects of sustainability evaluation on SMEs' sustainability performance. The study followed 100 SMEs over five years and analysed their sustainability performance

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data. The results showed that SMEs that consistently conducted sustainability evaluations had significantly improved sustainability performance compared to those that did not. The authors concluded that sustainability evaluation had a positive and sustained effect on SMEs' sustainability performance over the long term. To summarize Based on the data from the analysed studies, it is possible to infer that assessment improves the sustainability performance of SMEs. When compared to those who do not, SMEs that undertake frequent evaluations of their sustainability procedures do better in terms of sustainability. However, to encourage the adoption of sustainability assessment among SMEs, constraints such as lack of knowledge, limited resources, and perceived complexity of evaluation methods must be overcome.

Further research should examine the specific mechanisms through which assessment affects the sustainability practices and performance of SMEs as well as the contribution of contextual factors to the discovery of this relationship. Despite the fact that earlier studies have shown how important it is for companies to do in-depth analyses that produce a range of outcomes that support the desired objectives. This study aimed to clarify the relationship between the assessment system's impact on SMEs and how it relates to the sustainability of SMEs in Ghana, where it has not yet been thoroughly established.

Monitoring Systems and SMEs Digital Business Model

The Fourth Industrial Revolution (Industry 4.0) has influenced our way of living and the behaviour of both individuals and organizations alike. It has offered the means for firms to automate and digitalize their operations via the Internet of Things (Morrar, Arman & Mousa, 2017). Monitoring systems may use integrated data platforms to analyse trends and provide developmental recommendations for well-informed business decisions and actions (Gruzauskas, Krisciunas, Calneryte, Navickas &

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Koisova. 2020). Monitoring is embedded in business process management. Business process management is made up of a body of techniques, methods and systems to identify, prioritize, analyse, improve and monitor the business process of an organisation (Imgrund, *et al*., 2018). Digitalization provides the platform for businesses to use digital tools, technology and eco-systems to provide enhanced customer value mostly via new customer experiences, solutions and business models (Antonucci, et al., 2021). SMEs are adopting digitalization, especially in the area of marketing (Jadhav, Gaikwad & Bapat, 2023). Furthermore, it was alluded that over 70% of firms have already launched digitalization initiatives (Kirchmer, 2016).

The classical digitisation process, which primarily aims to convert analog information into a digital representation, is made possible by digitalization (Imgrund, *et al*., 2018). When monitoring systems are digitalized, business models incorporate alerts, alarms, and algorithms to detect anomalies as needed, changing the monitoring process into predictive business process monitoring (Caruso, *et al*., 2023). Monitoring as a process helps businesses regularly gather, analyze, and actively use the information to manage performance, reduce risks, and optimize positive effects. It is a continuous function that entails the methodical gathering of data on predetermined indicators to give management and the primary project stakeholders a sense of the project's level of development and attainment of goals, as well as the progress in the use of allocated funds. Business process monitoring aids organizations in both planning for future enhancements and modifying their ongoing processes before issues arise.

Digitalizing business monitoring systems is justified by the benefits proposed by the resource-based view theory as championed by Barney (1991). From the resource-based view theory, a combination of resources with features of being valuable, rare, inimitable, and non-substitutable possessed by SMEs positions firms to be competitive

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in the business environment (Barney, 1991). Investing in the digitalization of monitoring systems of SMEs requires resources that support such agenda, and to this effect, SMEs lacking such resources are doomed to the devastating effects the technological changes bring to the rapidly changing business environment.

Adjusting business models including the monitoring function to fit changes occasioned by the advances in the technological environment is also anchored on the position of the dynamic capability theory from both configurational and complementary perspectives (Schielhli *et al*., 2022). The theory requires SMEs to possess resources that make the SMEs sense, seize and reconfigure their business models to take advantage that comes along the changes in Industry 4.0. Change is constant and SMEs that respond appropriately to the changes by realigning their monitoring systems with the right digitalized technologies can better exploit the opportunities that can along within the technological environment whilst minimizing the threats posed by the same environmental changes.

Digitalized monitoring systems afford firms the chance to control the key performance indicators [KPIs]. KPIs by their internal structure are not punctual values, rather they are vectors or more often metrics built around two or more grouping variables with several levels. The use of business process monitoring systems helps business data analysts consider historical trends and the evolution of data and decide if the values in the period under consideration are within control or not through data visualization technologies (Caruso *et al*., 2023). Business process monitoring builds on predictive modelling, thereby serving as a foundation of process mining. Its application is also recognized in compliance contexts which also allows for predicting "foreseen as well as unforeseen events" leading to an agile workflow framework (Caruso *et al*., 2023). Under-monitoring is risky and could translate into underestimating the

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likelihood of detecting errors and corrupt behaviour (Antonucci, *et al.*, 2021). The idea of digitalizing SMEs' business processes and functions helps to streamline business routines, providing means to become more efficient in operations. It also creates the means to generate deeper customer insights, automate manual tasks, and innovate new products, services and business models. Digitalization helps in monitoring business processes and their progress levels.

Evaluation Systems and SMEs Digital Business Model

Digitalization improves operational efficiency and information transparency of business processes (Pfister & Lehmann, 2023). Digital transformation has forced businesses, especially small businesses that usually work in a non-digital field, to adopt technologies in evaluating their performance. Essentially, SMEs do not have adequate resources to support their digitalization initiatives, hence, the struggle to adopt such technologies and missing additional guidance on realizing additional values and benefits by digitalizing their businesses (Pfister & Lehmann, 2023). Digitalization is a form of innovation that helps firms transform themselves to respond to technological changes (Pfister & Lehmann, 2023).

Evaluation takes the form of comparing a given intervention to a set of criteria. It addresses the steps involved in defining, gathering, and delivering pertinent information for evaluating decision alternatives (Wanzer, 2021). According to Kupiec *et al*. (2023), evaluation is a methodical investigation into the value and usefulness of initiatives. Examining the results of policies and programs and guaranteeing organizational learning both rely heavily on evaluation. Three classifications of evaluation systems—centralized, with a single evaluation unit; decentralized, with a coordinating body; and decentralized without a coordinating body—are used to classify evaluation systems (Kupiec *et al*., 2023). The internal knowledge consumers are the

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main focus of the decentralized evaluation system. The external audience and external accountability for effect are recognized by a centralized evaluation system, which performs a more strategic purpose.

From the resource-based view theory, a combination of resources having the characteristics of being valuable, rare, inimitable, and non-substitutable position firms to be competitive in the business environment (Barney, 1991). The degree of digitalization of the operations of the SMEs serves as a core competence that could be relied on for competitive business moves by the SMEs. Therefore, capabilities embedded in the digitalization of evaluation systems are competitive resources in this sense. To make SMEs more adaptable in their response to the massive changes in the technological environment, the dynamic capability theory proposes the need for firms to possess resources that can be changed to fit the demands of the rapidly changing business environment (Teece *et al*., 1997). SMEs with valuable, rare, inimitable, and non-substitutable resources could easily become digitalized in their business approaches and competitive posture. Possessing dynamic capabilities requires firms to sense, seize and reconfigure their business operations to fit changes in the business environment (McAdam *et al*., 2017). The dynamic capability theory re-enforces the position that strategic alignment is a journey and not an event, thereby justifying the need for SMEs to continuously seek means to re-strategize their business models via digitalization adoption in their business operations (McAdam *et al.*, 2017).

Evaluation systems provide insights to SMEs that help these firms to re-strategize their operations and functions via innovative strategies thereby improving productivity (Pfister & Lehmann, 2023). Digitalization has been recognized as playing an argumentative role in the relationship between dynamic capabilities and SMEs' performance (Martins, 2023). Digitalization of evaluation systems could help SMEs to

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simplify and accelerate the work with large data sets, establish communications with the external environment and automate business activities of enterprises. Digitalization offers a platform for businesses including SMEs to optimize business processes with software and IT solutions that make it cost-effective, simpler and better context to serve customers satisfactorily (Shpak, *et al.,* 2020). Replacing paper-based evaluation systems with digitalized evaluation systems could provide the benefit of quick response to changes in business operations (Lassnig *et al*., 2022).

Monitoring Systems and SMEs' Resilience

The dawn of globalisation requires organisations to be effective and more responsive to the demands of both internal and external stakeholders for transparency, accountability, effectiveness, efficiency, optimum services and delivery of noticeable results (Ospina *et al.,* 2021). Business owners are more concerned about their companies' development and resilience in the face of unanticipated adversity (Kumar *et al*., 2023). This may be accomplished through improving the monitoring of corporate programs and activities, employee work ethics, and SMEs' daily operational performance. Monitoring systems, according to Ilori *et al*. (2019), are instruments primarily utilized by government agencies to accomplish desired goals through performance feedback mechanisms.

Small and medium-sized businesses (SMEs) face numerous obstacles in the constantly changing business environment, which tests their resiliency (Cociorva, 2022). In response, SMEs increasingly leverage real-time monitoring systems as a transformative solution. These cutting-edge systems enable SMEs to monitor and analyse crucial processes, supply chains, and market dynamics in real time. By harnessing data from sensors and IoT technologies, monitoring systems provide actionable insights, empowering SMEs to make informed decisions, anticipate potential

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disruptions, and adapt swiftly to changing conditions (Oli, 2023). This exploration delves into the dynamic interplay between monitoring systems and SME resilience, presenting real-world examples and proposing a comprehensive integration framework (Sullivan-Taylor, & Branicki, 2011). Armed with the advantages of monitoring systems, SMEs can fortify their capabilities, withstand challenges, and chart a path toward sustainable growth and lasting success.

Monitoring systems deliver regular updates on target and outcome progress to managers and other stakeholders (Khalil et al., 2022). This makes it possible for managers of SMEs to monitor progress, spot issues, adjust operations to take experience into account, and create and defend budgeting demands. This makes it possible to identify issues before they become serious so that remedies may be put out, making SMEs resistant to drops in business (Hu & Kee, 2022). Khalil et al. (2022) looked into how technological advancements like the Internet of Things and monitoring systems helped SMEs be more resilient to the COVID-19 pandemic. The results of their investigation revealed that all 96 SMEs in six developing nations, the study's sample, survived in large part due to the use of digital technology. SMEs today have access to a variety of opportunities on the global market; nevertheless, in order to participate in these markets, SMEs must increase their level of competitiveness (Di Vaio et al., 2023; Guo et al., 2023; and Fassoulsa, 2006). Although there has been significant progress in institutionalizing monitoring systems in company operations, Ospina et al. (2021) argue that the system is not yet strong enough to produce results-oriented outcomes like democratic accountability. As a result, monitoring systems must have an emphasis on rebuilding economies, preparing for adversity, and overcoming any potential obstacles to building resilience. These systems allow SMEs to increase their resistance to potential problems (Korsgaard et al., 2020; North et al., 2020).

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Evaluation Systems and SMEs Resilience

A systematic process known as the evaluation system links both implicit and explicit policy objectives with actual or predicted results (Cloete, Wissink, & De Coning, 2006). Decision-making is supported by evaluation systems throughout the entire system development cycle. Every implicit decision made throughout the design process is preceded by an evaluation (Mackay, 2006). Evaluations are conducted to support design decisions or decisions on the design process, such as what to do next, what needs more detail, etc. In the SME context, evaluation systems are pivotal in supporting decision-making for resilient strategies. By systematically linking policy objectives with real or anticipated results, evaluation systems enable SMEs to make informed choices throughout their development cycle (Kamau & Mohamed, 2015). These evaluations provide valuable insights into the effectiveness of current strategies, helping SMEs justify design decisions and prioritise areas for further enhancement. Westerlund (2020) identified that, with the guidance of evaluation systems, SMEs can identify vulnerabilities, optimise their resilience-building efforts, and proactively adapt to evolving challenges, ensuring a robust and sustainable path toward resilience and success.

In the quest to thrive amidst ever-changing market dynamics, Small and Medium-sized Enterprises (SMEs) are discovering the profound impact of evaluation systems on their resilience (Kadocsa, 2006). Evaluation systems offer a structured and data-driven approach, like placement, formative, summative and diagnostics, to assess and measure various aspects of an SME's performance, capabilities, and potential vulnerabilities. By implementing robust evaluation systems, SMEs gain valuable insights into their strengths and weaknesses, enabling proactive decision-making and targeted improvements (Skouloudis et al., 2020; Saad et al., 2021). These systems

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facilitate a deeper understanding of operational efficiency, customer satisfaction, financial health, and workforce adaptability, bolstering SME resilience. Embracing the empirical perspective, SMEs are empowered to optimise their strategies, cultivate agile responses to challenges, and lay a solid foundation for long-term sustainability and growth. This then takes us to the next review of monitoring systems and SME growth.

Monitoring Systems and SMEs Growth

Businesses in their relentless pursuit of growth and sustainability, Small and Medium-sized Enterprises (SMEs) are embracing cutting-edge solutions to gain a competitive edge. Among these, monitoring systems have emerged as a transformative force, propelling SMEs towards success through data-driven insights and proactive decision-making (Andriani, 2018). Monitoring systems empower SMEs to optimise operations, track performance, and precisely cater to customer demands. In this dynamic business landscape, monitoring systems are proving indispensable allies, providing SMEs with the tools to navigate challenges, seize opportunities, and chart a course toward sustainable growth and long-term prosperity (Amin *et al.*, 2023).

Monitoring systems are a catalyst for business growth, particularly for SMEs (Bayiley &Teklu, 2016). These innovative solutions offer innumerable benefits that positively influence SMEs' growth, paving the way for success in competitive markets. By equipping SMEs with real-time insights, monitoring systems enhance decision-making, enabling owners and managers to make informed choices, identify growth opportunities, and address challenges promptly. Moreover, these systems drive efficiency and productivity by continuously monitoring key performance indicators (KPIs), streamlining workflows, and allocating resources effectively (Odhiambo *et al*., 2020). SMEs can also adopt customer-centric strategies through monitoring systems and tailoring products and services to meet customer needs, thus building strong

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customer loyalty and driving growth. For SMEs seeking to expand, monitoring systems provide essential data to support scaling strategies, offering insights into profitable product lines, customer segments, and new markets. Embracing data-driven decision-making, SMEs can position themselves for long-term sustainability in competitive markets, securing lasting success.

According to Andriani (2018), the findings of their study show that there are differences between the characteristics of each growth stage, which causes business processes to become more sophisticated and mature. Therefore, SMEs should focus on their phases of development as a foundation for improving the maturity of their business processes, particularly on the crucial activities, which include assessing product performance, designing products and services, and tracking sales. Amin et al. (2023) also discovered in their study that monitoring and evaluation activities can be used for a variety of goals, including gathering information to evaluate inputs and output outcomes on business growth.

Conceptual Framework

Reviews from extant studies suggest a plausible relationship between monitoring, evaluation practices and business sustainability, business growth, business resilience and digitalisation of business. This suggests monitoring and evaluation practices as an intervention; and business sustainability, growth, resilience and digitalisation as outcomes in line with the theory of change. The arrows in Figure 1 show the relationship among these variables. In all, there were eight (8) hypotheses formulated for the study. Figure 1 shows the hypotheses and the relationships that results in the hypotheses.

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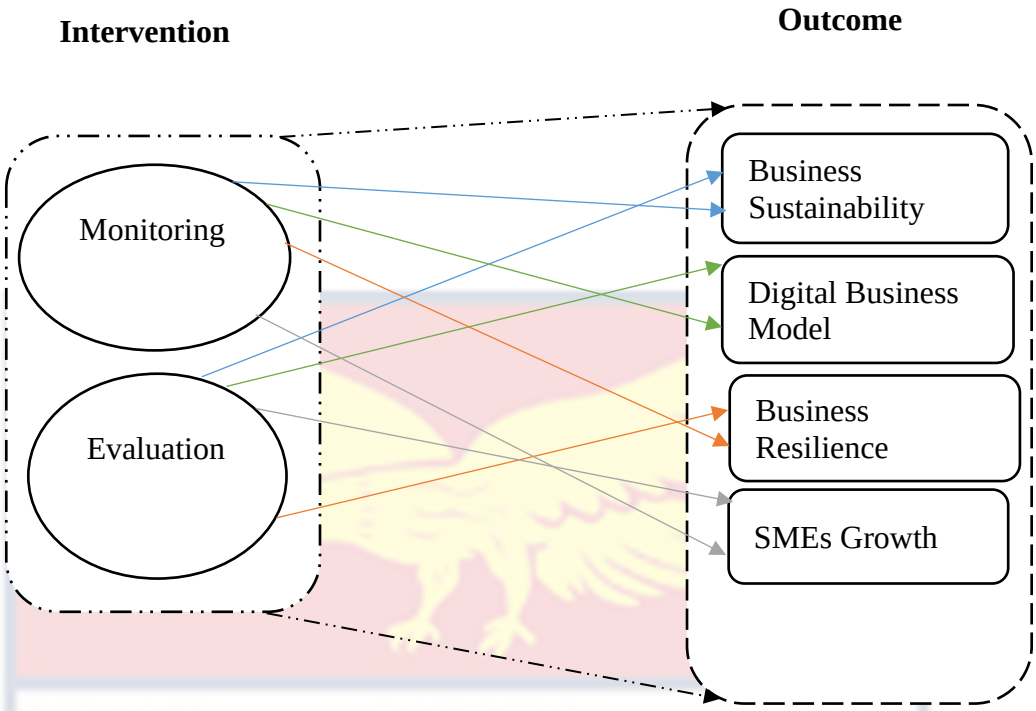

Figure 1: Conceptual Framework

Source: Author Construct (2023)

Chapter Summary

This chapter reviewed related literature concerning the aim of the study. The chapter also explained the concepts of this study. Based on theoretical and empirical evidence in the above literature, it is realised that monitoring and evaluation systems has significant influence on business growth, sustainability, resilience and business digitalisation. The implications of the findings in the literature are crucial in examining the role of monitoring and evaluation practices among SMEs in some selected metropolises in Ghana. The outcome of the literature review based on the study's objectives informed the methods employed for the study. These methods are discussed in the Chapter three. The remaining part of the study covers results and discussions, summary, conclusions and recommendation.

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CHAPTER THREE

RESEARCH METHODS

Introduction

The research approach used in this study is presented in this chapter. The research philosophy, research methodology, research design, study area, population, sampling method, data collection device, method, measurements of variables, data processing tools, and analytical technique are all explained in this chapter.

Research Paradigm

Positivism served as this study's paradigm. Positivism contends that there is just one way to identify reality or the truth. In light of this, positivism holds that investigations should adhere to good scientific practices. The positivist research paradigm helps figure out how a phenomenon started or for verifying a theory (Bogdan & Biklen, 2003). Subjective factors are not taken into consideration throughout the investigation when using the positivist philosophy. Because it looked at the connections and cause-and-effects between monitoring and evaluation systems and their implications for SMEs in the Ghana Enterprises Agency (GEA) and Association of Ghana Industries (AGI) database, the current study is based on the positivist ideology. The positivist presupposes a nature that supports the current study's emphasis on generating conclusions from a sample by putting their own hypotheses to the test.

The positivist paradigm holds that there is no absolute truth, therefore, it does not accept hypotheses; instead, it demonstrates that they cannot be disproven. The positivist paradigm also places a strong emphasis on objectivity (Phillips & Burbules, 2000). By testing hypotheses and analysing the results, this study produced facts from an impartial assessment of the main data collected from owner-managers of SMEs on

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the implications of monitoring and evaluation practices in selected metropolises in Ghana.

Research Design

The three fundamental types of research designs are descriptive, explanatory, and exploratory (Saunders & Lewis, 2017). The explanatory research design was used in this study to examine the relationship between monitoring and evaluation systems and their effects on SMEs in Ghana. In order to effectively comprehend the issue, the explanatory research design addresses the causes and effects by evaluating the hypothesis (Yin, 2003; Saunders, Lewis, & Thornhill, 2011). By giving specific information, an explanatory design aims to improve understanding of a phenomenon. It gives users the freedom to access various sources, such as articles that have already been published, and it gives them fresh perspectives on the frequency and applicability of data gathered by monitoring and evaluation systems in SMEs across the nation (Creswell & Creswell, 2017).

Research Approach

Saunders et al. (2012) distinguish between two categories of research methodologies: quantitative and qualitative research approaches. A qualitative research approach involves gathering data in the form of text and images. The data in qualitative research are not quantified in numbers (Polkinghorne, 2005). Therefore, gathering this information is done through interviews and observations. As a result, it is not pertinent and applicable to this study. The quantitative research approach compares the facts gathered with what is theoretically expected to happen to evaluate the hypothesis. Using the quantitative method, enabled the examination of the implications of monitoring and evaluation systems for SMEs in Ghana. Furthermore, it provides extensive exposure to a succession of events, enabling statistics to be integrated with a large sample

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(Amarantunga & Baldry, 2002). Furthermore, it is straightforward to generalize the study's findings because statistical techniques can be integrated with quantitative methods. Additionally, the quantitative analysis helped to clarify the conclusion from the findings of the study. The reason for this is that since the conclusions are frequently based on quantitative measures rather than just subjective interpretations, they can be applied in the future and compared to other studies.

Study Area

The study was conducted in five selected metropolises including Sunyani, Accra, Kumasi, Cape Coast, and Tamale metropolis. These metropolises were selected because they have the highest concentration of small firms (50.1% plus) with most of them in Accra, Kumasi and similar areas (Ghana Statistical Service, 2019). The Accra and Kumasi metropolises are the two major commercial cities in Ghana (Toure, Stow, Clarke, & Weeks, 2020). The cities host clusters of formal and informal economic activities made up of kiosks, street vendors and hawkers. The other metropolises (Sunyani, Tema, Cape Coast) play host to a significant number of informal businesses.

Population

The population for this study comprised owner-managers of SMEs in Ghana captured in the GEA and the AGI databases. From these two sources, a sampling frame was created for those in the selected metropolis. This gave a total population size of 1,189. For this frame, a sample of 423 SMEs was selected comprising SMEs from the Sunyani, Accra, Kumasi, Cape Coast, and Tamale metropolitan areas. Based on the sample size determination formula by Bartlett, Kotrlik, and Higgins (2001), Krejcie and Morgan (1970) who suggested a minimum sample size of 370 and 384 respectively; and Yamane (1973), who suggested 385, in this study there was an over-sampling. A total of 423 owner/managers were used for the study. This was done to improve

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resolution and precision of study outcome as it helps reduce the tendency of loss of relevant information. The lottery method of simple random sampling technique was used. This technique gave owners/managers in the target population an equal chance of participating in the study. This technique was used because managers of SMEs were considered a homogenous group with similar characteristics.

Sampling and Sampling Procedure

From the sampling frame, the owners/Managers of SMEs were randomly selected using the Excel random sampling technique of the lottery method. To perform the lottery method in Excel, the population data was entered into an Excel worksheet. The RAND function was used to generate random numbers and the RANK function to rank the numbers for each unit in the population. The RANK function was used to rank the random numbers. Lastly, the top n units from the ranked list were selected to form the sample. The technique was used because it has the advantage of giving all the units of analysis an equal chance of participating in the survey. There was an assumption of homogeneity of the characteristics of the SMEs that participated in the survey from the selected metropolis. The sampling procedure involved assigning codes to the SMEs in the sampling frame. Data was organised in a single column. Random numbers were generated using the RAND function in a new window. Furthermore, the data and the random number columns were sorted in ascending order. The desired number of rows from the sorted data was selected as the random sample.

Data Collection Instrument

The questionnaire was the main data collection instrument. It had four major sections to gather data from owner-managers of SMEs across Ghana. Section A presented question items on the demographic characteristics of the respondent's background, Section B looked at the monitoring systems among SMEs across Ghana,

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Section C comprised items on evaluation systems in SMEs, and the last section, D also presented questions on the sustainability of SMEs. Questionnaires allow for quantitative analysis because the same set of questions are asked to every respondent. Another characteristic of surveys is that they have robust confidence intervals and high response rates. All the items measuring monitoring systems, evaluation systems and sustainability of SMEs were positively keyed on a seven-point Likert-like scale with '1' representing the least agreement and '7' representing the highest agreement. This scale was adopted for this study because it allowed gathering feedback from respondents to allow for regression analysis to be undertaken.

Data Collection Procedures

Primary data were collected from respondents, primarily owners and managers. To collect primary data, closed-ended structured questionnaires were used. An official email request was addressed to the various firms in order to obtain the participants' approval before the surveys were made public. The questionnaires were given to the respondents after obtaining their permission. Self-administered, the survey was.

Data Processing and Analysis

Data was collected, cleaned, and coded before being entered into statistical software programs like SPSS and SmartPLS. The numerical codes for the quantitative data have to be updated as a result. Mean and standard deviation were among the descriptive statistics used to construct the data. The associations between the important study variables were determined using partial least structural equation modeling. The techniques utilized for data analysis were the one-sample t-test and PLS-SEM.

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Structural Equation Modelling

The measurement model and hypotheses were tested using the SmartPLS 4.0, which was also utilized to determine the path coefficient (β), coefficient of determination (R2), effect size (f2), and predictive relevance (Q2) to evaluate the structural model's predictive power (Ringle, Sarstedt & Schlittgen, 2014). A unit change in the exogenous construct causes an estimated change in the endogenous construct, which is represented by the path coefficient (Hair, Matthews, Matthews & Sarstedt, 2017a, 2017b). R2 indicates the amount of variance that can be attributed to outside causes, and the closer the coefficient value is to 1, the more accurate the prediction (Chin, 1998b; Chin, Peterson & Brown, 2008; Henseler & Chin, 2010).

The amount that an exogenous (predicting) construct contributes to an endogenous latent construct is determined by the effect size (f^2) (Ringle et al., 2014). With effect sizes ranging from "small" (.02), "medium" (.15), or "big" (.35), it calculates the strength of the association between the group of variables (Cohen, 1988). A statistic called predictive relevance (Q^2) gauges how well an endogenous component may foretell a particular exogenous construct. The success of using the PLS parameters to reconstruct empirical data was depicted using the Q^2. Q^2 uses PLS and blindfolding methods to evaluate the prediction validity of a large, complex model.

If the endogenous constructs have a Q^2 value greater than zero, it means they are sufficiently predictive (Chin *et al*., 2008; Hair *et al*., 2017b). A. bootstrapping technique was used, and t-statistics and paths were estimated to investigate the hypothesised relationships. Structural Equation Modelling is highly resistant to flaws such as skewness, multicollinearity of indicators and model misspecification (Cassel, Hackl & Westlund, 1999). With this method, correlation, regression, and confirmatory factor analysis can all be done concurrently. Also, the SEM was appropriate because

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several dependent and independent variables can be examined at the same time showing the total effect which was used in this study.

Internal Consistent Reliability

Internal consistency is used to do a reliability test. When all other variables are held constant, reliability is the degree to which a measure consistently produces the same number or score after administration (Hays & Revicki, 2005). The internal consistency test is used to determine whether the scores from different test items are similar or consistent (Drolet & Morrison, 2001). RhoA and composite reliability were used in this work to calculate the internal consistency reliability (Rossiter, 2008; Hair et al., 2021). In research that is in its advanced stages, values between.70 and.90 are acceptable (Nunnally & Berstein, 1994).

Convergent and Discriminant Validity

Validity is referred to as the degree to which a measure's scores truly represent the variable they are intended to measure. Convergent validity arises once all indicator loadings for items measuring the same variable are statistically significant (Hair *et al*., 2021). Assessing the convergent validity requires collecting data using the measure with the factor loadings and computing the (AVE) average variance (Hair *et al*., 2021). In other to establish convergent validity, the factor loadings should be .70 and above (Hair, Ringle & Sarstedt, 2011). An AVE of .50 or greater accounts for more than half of the variance in its indicators. Hence, the threshold for assessing the convergent validity is an AVE score of .50 and above.

The degree to which the measure of one concept is unrelated to the measure of another separate construct is known as the discriminant validity. This makes sure that the models of the other constructs are different and capture the phenomenon that they

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do not (MacKinnon, 2008). The Fornell-Larcker Criterion, which compares the square roots of the anticipated average variable to the correlations of the latent variables, was used to determine the discriminant validity (Fornell & Larcker, 1981). The Heterotait-monotriat ratio (HTMT) has also been suggested as a superior substitute for evaluating the discriminant validity (Henseler, Ringle & Sarstedt, 2015; Hair et al., 2021). "HTMT is the mean value of the indicator correlations across construct relative to the mean of the average correlations for the indicators measuring the same construct," write Hair et al. in their 2021 study. An acceptable HTMT value is one that is less than.85 when evaluating discriminant validity. Once more, the study evaluated the discriminant validity using the HTMT ratio.

Assessment of the Structural Model

The structural equation model has undergone two evaluations. These are assessments of the structural model and the measurement model (outer model) (inner model). The structural measurement model's validity and reliability are evaluated by the measurement model evaluation, which also evaluates the relationship between the latent variables and their measures (Hair et al., 2021). The structural model assessment evaluates the tests of the endogenous and exogenous variables that are shown on the path diagrams. The coefficient of multiple determinations (R^2) for each endogenous component is the most important aspect in determining how effectively the PLS-SEM performs. The R-squared calculation compares a hidden variable's defined variance with overall variance.

The R^2 values fall between 0 and 1. R^2 values between .25 and .75 are categorized as "weak," "moderate," and "substantial," respectively (Hair et al., 2014; 2021). The regression coefficient reveals the degree of correlation between two latent variables. To be considered significant, the regression coefficients must be significant

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at the .05 level (Bradley, 2007). The predictive capability of the model is next evaluated. To evaluate the predictive power of the structural models, the Stone-Geissar Q^2 statistic is employed (Stone, 1974). If Q^2 values are greater than zero, the endogenous latent variable in the SEM model may have route model predictive power for the construct. Hair et al. (2016) found that the external construct has modest, medium, and high predictive values of the endogenous construct, with predictive values of .02, .15, and .35, respectively.

Chapter Summary

Surveys were used to gather the data, which was then analysed using SMART PLS. The study's sample size was determined through a simple random sampling technique. The Smart PLS 4 allowed to test the measurement of the variables which includes the reliability and validity of the research instrument as well as testing of the hypothesised relationships.

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CHAPTER FOUR

RESULTS AND DISCUSSION

Introduction

The study's goal was to analyze how monitoring and evaluation methods might affect SMEs in the Ghanaian metropolises of Sunyani, Accra, Kumasi, Cape Coast, and Temale. In this chapter, the outcomes of the respondents' descriptive statistics, indicator loadings, composite reliability, average variance extracted, and model measurement are presented. There are two sections to this chapter. The results are presented in the first section in relation to the study's goals. The second segment included a discussion of the results.

Descriptive Statistics

The first and second goals of this study were to learn more about the monitoring and assessment procedures used by SMEs in a few Ghanaian municipalities. The monitoring and evaluation procedures used by SMEs' managers are displayed in Tables 1 and 2.

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Table 1: Monitoring Practices

	Mean	Std. Deviation
Projects/Programme Goals and Objectives	3.96	2.096
Data Collection Methods/Timeline	4.09	2.097
Roles and Responsibilities	4.07	2.059
Analysis Plan and Reporting Templates	4.13	2.092
Plan for Dissemination and Financial Reporting	4.14	2.052
Involvement of all Key Players	4.27	2.098
Timeliness of Monitoring Activities	4.45	1.989
Data on Monitoring Parameters	4.37	2.004
Resource Allocation for Monitoring Programmes	4.43	2.037
Technique for Data Analysis	4.47	2.041
Presentation of Data to Management	4.19	1.924
Review of Report by Expert	4.20	1.910
Procedure for Monitoring Report Review	4.40	2.112

Source: Field Survey (2023)

Table 1 provides the mean and standard deviations of the monitoring practice of SMEs. Respondents were given 15 indicators in the form of statements on monitoring systems to rank the level at which those systems operate in their business, with 1 being the least and 7 being the most. All indicators had an average score ranging from (3.9 – 4.47). The mean scores of individual indicators exceeded the average of 3.5. This indicates the SMEs that participated in the study have monitoring systems in place. The study is consistent with an earlier finding that sought to say that SMEs often employ monitoring systems in their business (Mintah, Gabir, Aloo, & Ofori, (2022); Richard, & Kabala, 2020). From the results in Table 2, three elements of the practices (timeliness of monitoring activities, presentation of data to management and review of report by expert) had a standard deviation (SD=1.989, 1.924 and 1.910) respectively.

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This indicates that on average the participants agreed on using these monitoring practices.

Table 2: Evaluation Practices

	Mean	Std. Dev.
Periodic Evaluation of Projects	4.30	1.938
Evaluation at Initiation	4.11	1.935
Evaluation at Project Planning Stage	4.26	2.080
Evaluation at Implementation Stage	4.34	2.013
Evaluation at Project Closure Stage	4.25	2.018
Evaluation based on Project Intended Output	4.47	1.921
Evaluation based on Project Impact	4.46	2.002
Evaluation to assess project strategy effectiveness	4.38	1.948
Evaluation based on efficiency of resource use	4.39	1.907
Evaluation to assess opportunity costs	4.46	4.000
Project Sustainability Evaluation	4.31	1.935
Evaluation Based on Project Implications for Stakeholders	4.34	2.005
Use of External Independent Evaluator	4.13	2.043
Availability of Permanent Expert Evaluator	4.23	2.035
Scientific Methods of Evaluation	4.27	2.116

Source: Field Survey (2023)

Table 2 shows the mean and standard deviations of the evaluation practice of SMEs. Respondents were given 15 statements on evaluation systems to rank the level at which those systems operate in their business, with (1) being the least and (7) being the most. All indicators had an average score ranging from (M= 4.11 – 4.46). The individual mean scores exceeded the average of 3.5 indicating that SMEs who participated in this study have evaluation systems in place. The study contradicts an earlier finding that sought to say that SMEs often do not employ evaluation systems in their business (Addae-Korankye, & Aryee, 2021). From the results in Table 3, six

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elements of the practices (periodic evaluation, evaluation at initiation, evaluation based on project intended output, evaluation to assess project effectiveness, evaluation to assess the efficiency of resources and project sustainability evaluation) had a standard deviation (SD=1.938, 1.935, 1.921, 1.948, 1.907 and 1.935) respectively. This indicates that on average the participants agreed on using these evaluation systems.

Assessment of the Measurement Models for the Study

The evaluation of the PLS-SEM measurement is presented in this section. The measuring model's internal consistency reliability, convergent validity, and discriminant validity must all be evaluated. The factor loadings, RhoA, and composite reliability were used to evaluate the model measurement evaluation. The convergent validity was examined using Average Variance Extracted (AVE), and the discriminant validity was evaluated using the Fornell-Larcker Criterion and HTMT.

Factor Loadings

For this study, the independent variables are monitoring practices and evaluation practices, while the dependent variable is business sustainability, business resilience business growth, and digital business. Monitoring practices and evaluation practices were measured using 14 and 15 indicators, business sustainability was measured with 5 indicators, business resilience had 6 indicators, business growth had 3 indicators and digitisation of business had 5 indicators. Table 4 presents the indicator loadings for the latent variables. According to Hair et al., (2016), a valid indicator must load .7 and above. For that reason, all indicators that loaded below the threshold of .7 were removed in other to meet the requirement and enhance the reliability of the measurement model. A total of 38 indicators were used to measure all the latent variables in the study. From Table 4, it is noticed that some indicators were deleted, thus, all indicators that loaded below .7 as prescribed by Hair *et al.*, (2016) were

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removed from the model to increase reliability. Indicator items such as EP10, DB5, and BS2, as a measure of evaluation practices, digitization of business, and business resilience were all deleted given that they fell short of the requirement as Hair *et al*. (2021) prescribed. Thus, they are not a true measure of their construct in this study.

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Table 1: Factor Loadings

	Bus Growth	Bus Resilience	Bus Stability	Dig Business	Eva Practice	Moni Practice
BG1	.908					
BG2	.933					
BG3	.927					
BR1		.861				
BR2		.875				
BR3		.899				
BR4		.900				
BR5		.892				
BR6		.871				
BS1			.882			
BS3			.903			
BS4			.897			
BS5			.757			
DB1				.898		
DB2				.926		
DB3				.932		
DB4				.903		
EP1					.747	
EP11					.834	
EP12					.826	
EP13					.826	
EP14					.773	
EP15					.790	
EP2					.806	
EP3					.806	
EP4					.848	
EP5					.823	
EP6					.841	
EP7					.797	
EP8					.818	
EP9					.796	
MP1						.837
MP10						.847
MP11						.848
MP12						.815
MP13						.787
MP14						.781
MP2						.867
MP3						.860
MP4						.875
MP5						.869
MP6						.855
MP7						.855
MP8						.832
MP9						.827

Source: Field Data, 2023

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Assessing the Reliability and Validity of the Model

This section presents the reliability and validity of the model based on the PLS-SEM values. The results are specifically presented in Table 5. The table presented Cronbach's Alpha, RhoA, composite reliability scores, and AVE values.

Table 2: Reliability and Validity

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Bus Growth	.913	.913	.945	.851
Bus Resilience	.944	.944	.955	.780
Bus Stability	.883	.891	.920	.743
Dig Business	.935	.936	.954	.837
Eva Practice	.960	.960	.964	.656
MONI Practice	.968	.969	.971	.706

Source: Field Data (2023)

Internal Consistency Reliability

The internal consistency reliability assesses how closely connected a construct's indications are to one another (Hair *et al*., 2021). Higher values of reliability indicate that there is good and satisfactory reliability. The internal consistency reliability was measured using the reliability coefficient RhoA and composite reliability. According to Hair *et al*. (2021) values ranging between .70 and .90 thresholds represent a satisfactory to a good level of reliability. The reliability coefficient RhoA was used in assessing internal consistency reliability because of the limitations of Cronbach's Alpha. The Cronbach Alpha has a limitation of tau-equivalence (it is more conservative and assumes all the population has the same indicator loadings) whereas the composite

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reliability may also be too liberal to measure the internal consistency (Dijkstra & Henseler, 2015).

Hence, the reliability coefficient RhoA is more acceptable as it lies between the two extremes; Cronbach Alpha and the composite reliability (Hair et al., 2021). From Table 5, the results of reliability indicate that all the latent variables of the study meet the threshold and are all reliable. The composite reliability results also indicate the measures are reliable because all the construct loaded more than .7 (Bagozzi & Yi, 1988).

Convergent Validity

Convergent validity measures the degree to which the indicators converge to explain the latent variables' variance, thus the degree by which a given measure is positively correlated with other measurements of the same construct (Hair *et al*., 2021). The average variance extracted (AVE) was employed. A construct is said to explain at least 50% of the variance of its indicators when the AVE value is .50 or higher (Hair *et al*., 2021). An AVE of less than .50, on the other hand, denotes that, on average, more variance is still present in the item errors than in the variance explained by the construct. From Table 5, the findings show that each construct has an AVE of more than .50.

Assessing Discriminant Validity

The degree to which the constructs in the structural model are distinct from one another is measured by discriminant validity. To demonstrate discriminant validity, a construct must be distinct and capture phenomena that are not captured by other constructs in the model (MacKinnon, 2008). The heterotrait-monotrait ratio (HTMT) and the Fornell-Larcker criterion were both employed in this study to establish discriminant validity. The Fornell-Larcker criterion contrasts the latent variable

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correlations with the square root of the AVE values (Fornell & Larcker, 1981). Particularly, each construct's AVE should have a square root bigger than its highest correlation with any other construct (Hair *et al*., 2013). According to outcomes in Table 6, each variable's square root is much higher than its association with other research constructs. This indicates no two constructions can accurately reflect the same phenomenon.

Table 3: Fornell-Larcker Criterion

	Bus Growth	Bus Resilience	Bus Stability	Dig Business	Eva Practice	Moni Practice
Bus Growth	**.923**					
Bus Resilience	.718	**.883**				
Bus Stability	.654	.674	**.862**			
Dig Business	.667	.632	.528	**.915**		
Eva Practice	.629	.606	.682	.590	**.810**	
Moni Practice	.621	.599	.658	.641	.805	**.840**

Values that are Bolden represent the Fornell-Larcker Criterion for discriminant validity.

Source: Field Data (2023)

Even though the Fornell-Larcker criterion for discriminant validity was achieved in this study, Henseler, Ringle, and Sarstedt (2015) suggest evaluating the correlations' heterotrait-monotrait ratio (HTMT) is more appropriate in establishing the discriminant validity to address the shortcomings in the Fornell-Larcker criterion's inability to reliably identify the discriminant validity. The indicator correlations' average value across the construct is known as HTMT. A latent construct possesses discriminant validity, per Henseler *et al*. (2015) when the HTMT value is less than .850. Due to flaws in the Fornell-Larcker Criteria, the HTMT has been approved and is more appropriate. As a result, the HTMT was also analysed. From Table 8, the results show

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that the HTMT values of the latent variables are all below .850. This suggests that every construct in the model is different and unique.

Table 4: Heterotrait-Monotrait Ratio (HTMT)

	Bus Growth	Bus Resilience	Bus Stability	Dig Business	Eva Practice	Moni Practice
Bus Growth						
Bus Resilience	.773					
Bus Stability	.724	.735				
Dig Business	.722	.673	.577			
Eva Practice	.671	.634	.741	.621		
Moni Practice	.659	.625	.707	.673	.835	

Source: Field Data (2023)

Assessing Multicollinearity

Collinearity occurs when the indicators in the model are highly correlated (Hair *et al*., 2021). The metric for assessing the collinearity of indicators in this study is the Variance Inflator Factor (VIF). In PLS-SEM, a VIF score of .2 or lower and a score of 5 or higher indicates a problem of collinearity among the constructs. Table 8 presents the results of multicollinearity. The collinearity results indicate that constructs have no issues with multicollinearity because they all meet the threshold.

Table 5: Collinearity among Variables

	Bus Growth	Bus Resilience	Bus Stability	Dig Business	Eva Practice	Moni Practice
Bus Growth						
Bus Resilience						
Bus Stability						
Dig Business						
Eva Practice	2.835	2.835	2.835	2.835		
Moni Practice	2.835	2.835	2.835	2.835		

Source: Field survey (2023)

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A common approach bias is not present, according to the VIF data in Table 6. According to the standards outlined by Kock and Lynn (2012), a VIF score of more than 3.3 is indicative of pathological collinearity and a cautionary indicator that the model may be vulnerable to common method bias. The model can be said to be free from the issue of vertical or lateral collinearity as well as common method bias if all of the VIFs from a full collinearity test are equal to or lower than 3.3 (Kock, 2013).

Testing the Significance of the Model

In PLS-SEM, the bootstrapping process is undertaken to assess the significance of the path model. Bootstrapping is a resampling technique used in SEM to evaluate the significance of the path model. A bootstrap approach is being used by creating numerous subsamples from the original sample and estimating parameters for each subsample. To determine whether the estimated coefficients are statistically different from zero or not, estimates from all the subsamples are pooled, yielding not only the "best" estimated coefficients but also information on their predicted variability and the likelihood of deviating from zero. This method bases its evaluation of statistical significance only on the sample data and does not rely on statistical inferences about the population.

SmartPLS displays the bootstrap results on the path model presenting the indicator weights (Ringle *et al*., 2015). At a 5% significance level (two-tailed), any t-value above 1.96 is considered to be statistically significant. The results of the path modelling are depicted in Figure 2. Concerning the P-values, any value of .05 or lower is interpreted as being significant. Figure 4 presents information concerning the relationships between monitoring practices, evaluation practices, business resilience, business sustainability, business growth, and digitization of business.

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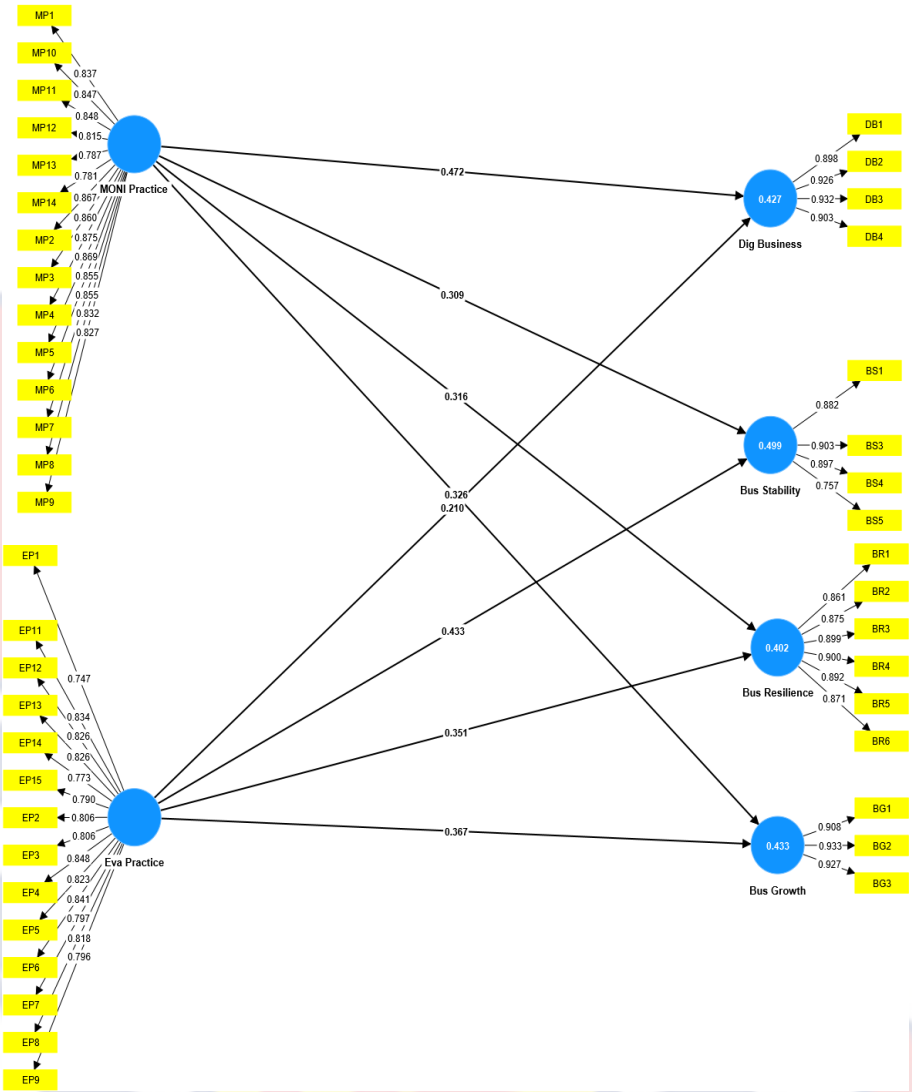

Figure 2: Structural Equation Modelling

Source: Field data (2023)

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Table 6: Structural Results and Decision

Direct Effect	Beta	T-Statistics	P-Value	Decision
Eva Practice -> Bus Growth	.405	3.677	.000	**Supported**
Eva Practice -> Bus Resilience	.382	3.479	.001	**Supported**
Eva Practice -> Bus Stability	.471	4.047	.000	**Supported**
Eva Practice -> Dig Business	.195	2.078	.038	**Supported**
Moni Practice -> Bus Growth	.322	2.987	.003	**Supported**
Moni Practice -> Bus Resilience	.307	2.690	.007	**Supported**
Moni Practice -> Bus Stability	.310	2.701	.007	**Supported**
Moni Practice -> Dig Business	.502	5.206	.000	**Supported**

Source: Field survey (2023)

Table 6 presents the summary of the structural results. The results indicate the hypotheses tested and the decisions made based on the significance of the relationships tested. It can be observed that the study failed to reject the alternative hypotheses. This means that all relationships tested were all positive and significant.

Assessing the Structural Model

Information relating to the evaluation of the research hypotheses is provided in this section. The coefficient of determination (R^2), effect size (f^2), and predictive relevance are used to evaluate the predictive power (Q^2).

Table 7: Coefficient of Determination and the Predictive Power

	R-square	R-square adjusted	F-squared	
Bus Growth	.433	.431	.084	.066
Bus Resilience	.402	.400	.073	.059
Bus Stability	.499	.497	.132	.067
Dig Business	.427	.424	.027	.137

Source: Field data (2023)

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Assessing the Coefficient of Determination and the Predictive Relevance

The explanatory power of the model in terms of the endogenous component is measured using the coefficient of determination (R^2) (Shumueli & Koppius, 2011). The R^2 values range from 0 to 1, with values closer to 1 indicating a better explanatory power. Even though R^2 values are acceptable based on the research context, R^2 values of .25 are considered weak, .50 are considered moderate whilst .75 are considered substantial in the social sciences field (Hair *et al*., 2011; 2021). The author also claimed that for structural models, a predictive relevance (Q^2) of '.02, .15, and .35' and an effect size (f^2) of '.02, .15, and .35' are viewed as 'small, medium, and large,' respectively. Referring to Table 9, it can be concluded that monitoring practices and evaluation practices have a moderate (.402, .427, .433, .499) R^2 (explanatory power) on business growth, business resilience, business stability and digitalisation of business, accounting for 40-49% of the variation in business resilience, digitization of business, business growth and business stability respectively. Hence, the model had moderate explanatory power. The effect size's findings indicate that monitoring practices and evaluation practices had weak effect sizes with f^2 values of (.068, .066; .073, .059; .132, .067; .027, .137) (Cohen, 1988). This implies that although monitoring and evaluation practices significantly influence business growth, sustainability, resilience, and digitalisation, their effect is not strong.

Discussion of Results

Monitoring Systems and SMEs' Sustainability

To analyse the effect of monitoring practices on SMEs' sustainability in Ghana. It was hypothesised that: *There is a significant positive relationship between monitoring practices and SMEs' sustainability.* From the path estimation model, the results of SEM showed that (β = .310, $p<.007$; Table 10, Figure 2). There was a

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significant relationship between monitoring systems and SMEs' sustainability. This implies that the deployment of monitoring systems is a critical component that might affect the sustainability of SMEs. The use of proper methods and processes to track and manage many elements of SMEs' activities, including production, sales, finance, and environmental effects, will contribute to the sustainability of SMEs (Smith *et al*., 2018). Gupta *et al*. (2019) indicated that SMEs that had installed monitoring systems performed better financially. Monitoring systems, according to the researchers, can improve the financial sustainability of SMEs by providing fast and reliable information for decision-making and performance monitoring.

In addition, Monitoring systems, according to Chen *et al*. (2010) may help SMEs discover and fix operational inefficiencies, decrease waste, enhance product quality, and maximize resource use. These improvements in operational performance can lead to greater SMEs' sustainability through cost savings, higher competitiveness, and improved customer satisfaction. Thus, monitoring systems improve the sustainability performance of SMEs. SMEs that use monitoring systems have better sustainability practices and performance. However, challenges such as lack of knowledge, budgetary restrictions, and technical skills must be overcome for SMEs to suitably utilize monitoring systems. From the theory of change, the monitoring system implemented by SMEs is seen as a set of interventions that can help these businesses enhance their sustainability. Based on these factors, the study assessed the relationship between monitoring systems in SMEs and their effect on the sustainability of SMEs.

Evaluation Systems and SMEs Sustainability

Also, the study assessed the effect of the evaluation system on SMEs' sustainability. It was hypothesised that: *There is a significant positive relationship between evaluation systems and SMEs sustainability*. From the path estimation model,

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the results of SEM showed that (β = .471, p< .000; Table 10, Figure 2). Thus, there is a significant relationship between the evaluation system and SMEs' sustainability. This implies that the deployment of an evaluation system is essential for the sustainability of SMEs. Wong (2014) explained that SMEs rely heavily on evaluation to analyse and improve their sustainability practices. SMEs may measure their sustainability performance, identify areas for improvement, and adopt adjustments to improve their sustainability practices via evaluation. This means that SMEs who undertook frequent reviews of their sustainability procedures performed. Thus, SMEs that do periodic evaluations (at the project initiation, planning and closure) have a high chance of being sustainable. As indicated by Kim *et al*. (2017), SMEs that used sustainability evaluation tools had higher sustainability performance compared to those that did not.

Garcia *et al*. (2016) asserted that barriers to sustainability evaluation adoption included a lack of awareness, limited resources, and perceived complexity of evaluation processes. However, facilitators such as leadership support, stakeholder pressure, and perceived benefits of sustainability practices were identified. The authors concluded that addressing these barriers and leveraging facilitators could promote the adoption of sustainability evaluation among SMEs.

Monitoring Systems and SMEs Digital Business Model

The study sought to assess the influence of monitoring systems and the digitalisation of business in Ghana. The study hypothesised that: *There is a significant positive relationship between monitoring systems and the digital business.* From the path estimation model, the results of SEM showed that (β = .502, p<.000; Table 10, Figure 2). There was a significant relationship between monitoring systems and the digitalisation of business. This implies that monitoring the activities of a business such as; internet usage for business operations, the online presence of the SMEs, and virtual

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engagement of customers has both financial and non-financial impacts on the SME's operations. Thus, digitalization opens up traditional digitization, which mainly focuses on the transformation of analogous information into a digital representation (Imgrund, *et al*., 2018). From another angle, the digitalization of monitoring systems infused in business models alerts, alarms and algorithms to detect anomalies, when necessary, helps to transform the monitoring process into predictive business process monitoring (Caruso, *et al*., 2023).

Monitoring systems may use integrated data platforms to analyse trends and provide developmental recommendations for well-informed business decisions and actions (Gruzauskas, Krisciunas, Calneryte, Navickas & Koisova. 2020). Monitoring as a process helps businesses regularly gather, analyze, and actively use the information to manage performance, reduce risks, and optimize positive effects. It is a continuous function that entails the methodical gathering of data on predetermined indicators to give management and the primary project stakeholders a sense of the project's level of development and attainment of goals, as well as the progress in the use of allocated funds. Business process monitoring aids organizations in both planning for future enhancements and modifying their ongoing processes before issues arise. Adjusting business models including the monitoring function to fit changes occasioned by the advances in the technological environment is also anchored on the position of the theory of change from both configurational and complementary perspectives (Schielhli *et al*., 2022). Change is constant and SMEs that respond appropriately to the changes by realigning their monitoring systems with the right digitalized technologies can better exploit the opportunities that can along within the technological environment whilst minimizing the threats posed by the same environmental changes.

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Digitalized monitoring systems afford firms the chance to control the key performance indicators [KPIs]. KPIs by their internal structure are not punctual values, rather they are vectors or more often metrics built around two or more grouping variables with several levels. The use of business process monitoring systems helps business data analysts consider historical trends and the evolution of data and decide if the values in the period under consideration are within control or not through data visualization technologies (Caruso *et al.,* 2023).

Business process monitoring builds on predictive modelling, thereby serving as a foundation of process mining. Its application is also recognized in compliance contexts which also allows for predicting "foreseen as well as unforeseen events" leading to an agile workflow framework (Caruso *et al*., 2023). Under-monitoring is risky and could translate into underestimating the likelihood of detecting errors and corrupt behaviour (Antonucci, *et al.,* 2021). The idea of digitalizing SMEs' business processes and functions helps to streamline business routines, providing means to become more efficient in operations. It also creates the means to generate deeper customer insights, automate manual tasks, and innovate new products, services and business models. Digitalization helps in monitoring business processes and their progress levels.

Evaluation Systems and SMEs Digital Business Model

The study sought to assess the influence of evaluation systems and the digitalisation of business in Ghana. The study hypothesised that: *There is a significant positive relationship between evaluation systems and the digital business model.* From the path estimation model, the results of SEM showed that ($\beta = .195$ $p<.038$; Table 10, Figure 2). There was a significant relationship between evaluation systems and the digitalisation of business. Evaluation manifests in the process of judging an intervention

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based on a set of standards. It covers the process of delineating, obtaining and providing useful information for judging decision alternatives (Wanzer, 2021).

From the perspective of Kupiec *et al.*, (2023) evaluation is a systematic inquiry of the merit and worth of interventions. Evaluation is a vital tool for ensuring accountability and organizational learning in terms of examining the outcomes of policies and strategies. Evaluation systems are grouped into three categories including centralized with one single evaluation unit; decentralized with a coordinating body and decentralized without a coordinating body (Kupiec *et al.*, 2023). The decentralized evaluation system focuses on internal users of knowledge. A centralized evaluation system fulfils a more strategic function, recognizing the external audience and external accountability for effects.

Digitalization improves operational efficiency and information transparency of business processes (Pfister & Lehmann, 2023). Digital transformation has forced businesses, especially small businesses that usually work in a non-digital field, to adopt technologies in evaluating their performance. Essentially, SMEs do not have adequate resources to support their digitalization initiatives, hence, the struggle to adopt such technologies and missing additional guidance on realizing additional values and benefits by digitalizing their businesses (Pfister & Lehmann, 2023). Digitalization is a form of innovation that helps firms transform themselves to respond to technological changes (Pfister & Lehmann, 2023).

The degree of digitalization of the operations of the SMEs serves as a core competence that could be relied on for competitive business moves by the SMEs. Therefore, capabilities embedded in the digitalization of evaluation systems are competitive resources in this sense. To make SMEs more adaptable in their response to

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the massive changes in the technological environment, there is a need for firms to possess resources that can be changed to fit the demands of the rapidly changing business environment (Teece *et al.*, 1997). SMEs with valuable, rare, inimitable, and non-substitutable resources could easily become digitalized in their business approaches and competitive posture.

Evaluation systems provide insights to SMEs that help these firms to re-strategize their operations and functions via innovative strategies thereby improving productivity (Pfister & Lehmann, 2023). Digitalization has been recognized as playing an argumentative role in the relationship between dynamic capabilities and SMEs' performance (Martins, 2023). Digitalization of evaluation systems could help SMEs to simplify and accelerate the work with large data sets, establish communications with the external environment and automate business activities of enterprises. Digitalization offers a platform for businesses including SMEs to optimize business processes with software and IT solutions that make it cost-effective, simpler and better context to serve customers satisfactorily (Shpak, *et al*., 2020). Replacing paper-based evaluation systems with digitalized evaluation systems could provide the benefit of quick response to changes in business operations (Lassnig *et al*., 2022).

Monitoring Systems and SMEs' Resilience

The study sought to assess the influence of monitoring practices on SMEs' resilience in Ghana. The study hypothesised that: *There is a significant positive relationship between Monitoring Systems and SMEs resilience***.** From the path estimation model, the results of SEM showed that ($\beta = .310$ $p<.000$; Table 10, Figure 2). Implications are that a business that takes monitoring systems seriously or engages in effective monitoring systems is likely to bounce back or withstand difficult situations. A resilient business especially during COVID and post-COVID times in

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Ghana is one that was able to adapt to changes in the economy through its supply chain processes. This may be accomplished through improving the monitoring of corporate programs and activities, employee work ethics, and SMEs' daily operational performance. Monitoring systems, according to Ilori *et al*. (2019), are instruments primarily utilized by government agencies to accomplish desired goals through performance feedback mechanisms.

Small and medium-sized businesses (SMEs) face numerous obstacles in the constantly changing business environment, which tests their resiliency (Cociorva, 2022). In response, SMEs increasingly leverage real-time monitoring systems as a transformative solution. These cutting-edge systems enable SMEs to monitor and analyse crucial processes, supply chains, and market dynamics in real time. By harnessing data from sensors and IoT technologies, monitoring systems provide actionable insights, empowering SMEs to make informed decisions, anticipate potential disruptions, and adapt swiftly to changing conditions (Oli, 2023). This exploration delves into the dynamic interplay between monitoring systems and SME resilience, presenting real-world examples and proposing a comprehensive integration framework (Sullivan-Taylor, & Branicki, 2011). Armed with the advantages of monitoring systems, SMEs can fortify their capabilities, withstand challenges, and chart a path toward sustainable growth and lasting success.

Monitoring systems provide managers and other stakeholders with regular information on progress relative to targets and outcomes (Khalil *et al*., 2022). This enables managers of SMEs to keep track of progress, identify problems, alter operations to account for experience, and develop any budgetary requests and justify them. This enables the early identification of problems so that solutions can be proposed, rendering SMEs resilient to business falls (Hu & Kee, 2022). In their study, Khalil *et al*. (2022)

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investigated the technological role the Internet of Things, monitoring systems played in enhancing the resilience of SMEs during the COVID-19 pandemic. The findings of their study showed a digital technology played a significant role in the survival of all 96 SMEs in six developing countries the sample for the study.

Thus, SMEs now have access to many global marketplaces' opportunities; yet, to compete in these markets, SMEs must strengthen their competitiveness (Di Vaio *et al*., 2023; Guo *et al*., 2023; Fassoulsa, 2006). However, Ospina *et al*. (2021) opine that despite remarkable progress in institutionalising monitoring systems in business activities, evidence suggests that the system falls short of producing strong results-oriented outcomes like democratic accountability. There is, therefore, the need for monitoring systems to emphasise restoring economies and preparation for adversity and potential difficulties in creating resilience. Through these systems, SMEs can strengthen their resistance to possible difficulties (Korsgaard *et al*., 2020; North *et al.,* 2020).

Evaluation Systems and SMEs Resilience

The study sought to assess the influence of evaluation systems and SME resilience in Ghana. The study hypothesised that: *There is a significant positive relationship between evaluation systems and SMEs' resilience.* From the path estimation model, the results of SEM showed that (β = .382 $p<.001$; Table 10, Figure 2). Implications are that a business that takes evaluation systems seriously or engages in effective evaluation can survive any unfavourable environment.

In the SME context, evaluation systems are pivotal in supporting decision-making for resilient strategies. By systematically linking policy objectives with real or anticipated results, evaluation systems enable SMEs to make informed choices

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throughout their development cycle (Kamau & Mohamed, 2015). These evaluations provide valuable insights into the effectiveness of current strategies, helping SMEs justify design decisions and prioritise areas for further enhancement. Westerlund (2020) identified that, with the guidance of evaluation systems, SMEs can identify vulnerabilities, optimise their resilience-building efforts, and proactively adapt to evolving challenges, ensuring a robust and sustainable path towards resilience and success.

Evaluation systems offer a structured and data-driven approach, like placement, formative, summative and diagnostics, to assess and measure various aspects of an SME's performance, capabilities, and potential vulnerabilities. By implementing robust evaluation systems, SMEs gain valuable insights into their strengths and weaknesses, enabling proactive decision-making and targeted improvements (Skouloudis *et al*., 2020; Saad *et al*., 2021). These systems facilitate a deeper understanding of operational efficiency, customer satisfaction, financial health, and workforce adaptability, bolstering SME resilience. Embracing the empirical perspective, SMEs are empowered to optimise their strategies, cultivate agile responses to challenges, and lay a solid foundation for long-term sustainability and growth. This then takes us to the next review of monitoring systems and SME growth.

Monitoring, Evaluation Systems and SMEs Growth

The study sought to assess the influence of monitoring and evaluation systems and SME growth in Ghana. The study hypothesised that: *There is a significant positive relationship between monitoring and evaluation systems and SMEs growth.* From the path estimation model, the results of SEM showed that (β = .322 p<.003; β = .405 p<.000; Table 10, Figure 2). This implies that businesses that have monitoring and

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evaluation practices in place may grow. Statistically, monitoring influences growth by 32% while evaluation influences growth by 40.5%.

Businesses in their relentless pursuit of growth and sustainability, Small and Medium-sized Enterprises (SMEs) are embracing cutting-edge solutions to gain a competitive edge. Among these, monitoring and evaluation systems have emerged as a transformative force, propelling SMEs towards success through data-driven insights and proactive decision-making (Andriani, 2018). Monitoring and evaluation systems empower SMEs to optimise operations, track performance, and precisely cater to customer demands. In this dynamic business landscape, monitoring and evaluation systems are proving indispensable allies, providing SMEs with the tools to navigate challenges, seize opportunities, and chart a course toward sustainable growth and long-term prosperity (Amin *et al*., 2023).

Monitoring and evaluation systems are catalysts for business growth, particularly for SMEs (Bayiley &Teklu, 2016). These innovative solutions offer innumerable benefits that positively influence SMEs' growth, paving the way for success in competitive markets. By equipping SMEs with real-time insights, monitoring and evaluation systems enhance decision-making, enabling owners and managers to make informed choices, identify growth opportunities, and address challenges promptly. Moreover, these systems drive efficiency and productivity by continuously monitoring key performance indicators (KPIs), streamlining workflows, and allocating resources effectively (Odhiambo *et al*., 2020). For SMEs seeking to expand, monitoring and evaluation systems provide essential data to support scaling strategies, offering insights into profitable product lines, customer segments, and new markets. Embracing data-driven decision-making, SMEs can position themselves for long-term sustainability in competitive markets, securing lasting success.

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In Andriani (2018), the results of their study indicate that the characteristics of each growth stage are different, which leads to increased complexity and maturity of business processes. Therefore, SMEs should pay attention to their growth stages, as a basis to improve their business process maturity, especially on the critical processes, which are evaluating product performance, designing products and services and monitoring sales. Further, in their study Amin *et al*., (2023) found that Monitoring and Evaluation activities can serve multiple purposes, notably gathering and collecting data to assess inputs and output outcomes on business growth.

Chapter Summary

The chapter, first of all, presented the demographic characteristics of the respondent who participated in the study followed by descriptives and an assessment of the structural model and lastly, Information about the objectives of the study. Based on the findings, it was revealed that monitoring and evaluation systems had a significant and a positive relationship with business growth, resilient, sustainability and digitisation of business.

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CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATION

Introduction

This is the final chapter of the study, it provides a summary of the full investigation, conclusions based on the findings and discussions, and recommendations along with areas for subsequent investigation and study.

Summary

The purpose of the study is to examine the implications of monitoring and evaluation systems for Small and Medium-sized Enterprises in selected metropolis in Ghana. The objectives of the study were to analyse the monitoring systems, assess the evaluation system in the selected SMEs; test the effect of monitoring and evaluation systems on SMEs' business sustainability; analyse the effect of monitoring and evaluation systems on SMEs' business resilience; examine the effect of monitoring and evaluation systems on SMEs' business growth and analyse the effect of monitoring and evaluation systems on SMEs' digital business model.

Following the objectives, eight hypotheses were developed and tested. The study was a quantitative one based on the positivist paradigm. The explanatory research design was adopted. The target population was registered SMEs in selected metropolises including Sunyani, Accra, Kumasi, Takoradi, Cape Coast and Temale. A simple random technique was employed to select 423 respondents for the survey. Self-administered questionnaires were used for the data collection. Data was analysed using mainly Partial Least Square Structural Equation Modelling (PLS-SEM). Additionally, the demographics of the respondents were analysed using descriptives and inferential statistics.

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For the major findings of the study, it was observed for the first objective that the SMEs that participated in the study had in place monitoring systems. Three activities (timeliness of monitoring activities, presentation of data to management and review of report by expert) were commonly agreed upon monitoring practices.

The second objective was to assess the evaluation systems in the selected SMEs. It found that the SMEs that participated in the study had in place evaluation systems. Six activities (periodic evaluation, evaluation at initiation, evaluation based on project intended output, evaluation to assess project effectiveness, evaluation to assess the efficiency of resources and project sustainability evaluation) were commonly agreed upon evaluation practices.

Findings for the third and fourth objectives revealed that monitoring and evaluation systems had a positive relationship with business sustainability and business resilience with significant effects respectively. Regarding objectives five and six, findings revealed that monitoring and evaluation systems had a significant and positive effect on business growth and digitalisation respectively.

Conclusions

Based on the findings of this study, it was concluded that SMEs do have monitoring systems that guided their operations. They also had evaluation systems in place suggesting that there was a system in place to appraise their activities. The study provides new insights into the phenomenon of SMEs' sustainability and growth in the Ghanaian context. It proposes a superior approach to assessing SME survival and development in the country. The results from the study are essential for practice as they suggest the relevance of monitoring and evaluation in the operations of SMEs. Furthermore, the results inform policymakers of the need to incorporate monitoring and

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evaluation in the design and implementation of business development services as part of support to sustain SMEs' growth. The study contributes to the general body of knowledge on the survival of SMEs in Ghana. Dwelling on the theory of change, the study serves as a valuable reference of literature for future study by highlighting the essential role of monitoring and evaluation in the life of SMEs. The study serves as a reference for developing theoretical and empirical on this subject matter.

Recommendations

It is recommended that managers of SMEs within the selected area improve upon their monitoring systems. This will increase the effect it will have on their resilience, growth, sustainability and digitalisation. Results indicated that though monitoring systems positively affect the business, their effect size was weak. It was found that 'the employment of experts to review monitoring reports' was common among SMEs in Ghana followed by 'my firm presenting their analysed data to management and my firm ensuring timely execution of its monitoring activities respectively'. Other monitoring practices such as allocation of resources to carry out monitoring activities, ensuring timely execution of its monitoring programs etc should be improved for monitoring systems to have a strong effect on the business performance as a whole. Likewise, evaluation systems need improvement to also contribute greatly to the growth, sustainability, resilience and digitalisation of the business.

Suggestions for Future Research

Further study should look at the particular monitoring and evaluation processes through which assessment affects the sustainability practices, growth, resilience and or performance of SMEs, as well as the impact of contextual variables in determining this connection. Even though previous research has highlighted the need for businesses to

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undertake rigorous evaluations and monitoring systems that lead to a series of results contributing to the intended effects.

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APPENDIX

Christian Service University College,

Kumasi

Faculty of Humanities

Department of Planning and Development

QUESTIONNAIRE

Dear Participant

This instrument is to solicit information on the implications of monitoring and evaluation (M&E) for Small and Medium-sized Enterprises (SMEs) in selected cities in Ghana. The purpose of the survey is to analyse how SMEs use M&E in their operations and how it impacts the firm. The outcome of this research would inform owner-managers and policymakers, and advisors in the sector of the need to integrate monitoring and evaluation systems to promote SMEs' development, growth, and survival. Your firm has been selected to participate in this study due to its strategic nature in the sector.

The survey is part of my academic work in which I am analysing the role of M&E in the operations of SMEs. All information you provide would be treated with the utmost confidentiality. The objectivity of your responses is highly required to help in the success of the study. Please note that your participation is voluntary and you are free to withdraw at any point in time. It would take about 15 minutes to fill out this questionnaire. Before you begin filling out the questionnaire, kindly sign the informed consent form attached.

Please do not hesitate to contact me (0246168010) should require further clarification about the questionnaire or the research.

Thanks for participating in this survey.

SECTION A: DEMOGRAPHIC CHARACTERISTICS

1. Please indicate your sex: Male [ ] Female [ ]
2. Please indicate your age (years)……
3. Position of respondent:
   Owner/Manager[ ] Project manager [ ] M&E manager [ ] Others (please specify) ……
4. Please state the Region of your firm…….
5. Please state the age of your firm (in years) ……

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6. Please Indicate the sector of your business

   Product/service/process development [ ]
   e-commerce [ ]
   Transport [ ]
   Marketing [ ]
   Finance [ ]
   Agric [ ]
   Others, Please specify [ ] ……

7. State the number of employees in your business (e.g. 10) ……..…
8. Do you have a monitoring and evaluation expert in your firm?

   Yes [ ] No [ ]

SECTION B: MONITORING PRACTICES

The following questions relate to SME monitoring activities. It is intended to solicit information on the procedures SMEs follow to ensure effective monitoring of their project activities. Please show your level of agreement on a scale of **1 to 7; where 1= the Least Agreement and 7= the Highest Agreement.**

No	STATEMENTS	1	2	3	4	5	6	7
MP1	My firm plans its monitoring activities by identifying projects or program goals and objectives							
MP2	My firm plans its monitoring activities by defining indicators for tracking progress							
MP3	My firm plans its monitoring activities by defining its data collection methods and timeline							
MP4	My firm plans its monitoring activities by identifying the roles and responsibilities of the monitoring team							
MP5	My firm plans its monitoring activities by creating an analysis plan and reporting templates							
MP6	My firm plans its monitoring activities by planning for dissemination and financier reporting							
MP7	My firm monitoring activities involve all key players							
MP8	My firm ensures the timely execution of its monitoring activities							
MP9	My firm collects data for the parameters being monitored							
MP10	My firm allocates resources for carrying out its monitoring programs							
MP11	My firm analyses data by using appropriate monitoring technique							
MP12	My firm presents the analysed data and present it to the management							
MP13	My firm employs an expert to review its monitoring report							
MP14	My firm has a laid down procedure for reviewing its monitoring report.							

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SECTION C: EVALUATION PRACTICES OF SMES

The following questions show how SMEs evaluate their project activities. It is intended to solicit information on the procedures SMEs follow to ensure an effective evaluation of their project activities. Please show your level of agreement on a scale of 1 to 7; where 1= the Least Agreement 7= the Highest Agreement.

No	STATEMENTS	1	2	3	4	5	6	7
EP1	My firm evaluates its projects periodically							
EP2	My firm evaluation activities are done at the Initiation stage of our project.							
EP3	My firm evaluation activities are done at the planning stage							
EP4	My firm evaluation activities are done at the implementation stage							
EP5	My firm evaluates at the closure stage							
EP6	My firm evaluation is done based on what the project intended to achieve,							
EP7	My firm evaluates to measure its impact on targets							
EP8	My firm evaluates to assess the effectiveness of the project strategy							
EP9	My firm does an evaluation to assess the efficient use of resources							
EP10	My firm evaluates to assess our opportunity costs							
EP11	My firm does an evaluation to determine how sustainable the project is.							
EP12	My firm evaluates to assess the implications of the project for the various stakeholders							
EP13	My firm uses an external independent evaluator for our evaluation activities.							
EP14	My firm has a permanent expert evaluator							
EP15	My firm evaluators use scientific methods in evaluating							

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SECTION D: BUSINESS ENVIRONMENT

This section provides questions on the business environment in which SMEs operate. Please show your level of agreement on a scale of 1 to 7; where 1= the Least Agreement 7= the Highest Agreement.

No	STATEMENTS	1	2	3	4	5	6	7
BE1	There are ready business development services to support SMEs							
BE2	Our firm has access to a favourable tax policy and legal systems							
BE3	There is the availability of labour for my firm							
BE4	There is the availability of raw-material suppliers and other related industrial clusters for my firm.							
BE5	My firm operates in a crime-free environment							
BE6	My firm gets adequate support from the government for technological upgrade							
BE7	There is readily accessible external finance and investments to support our operations							
BE8	We have adequate customers that patronize our services							
BE9	My firm has access to quality infrastructure (roads, railways, airports and ports)							
BE10	My firm management or leaders support the introduction of new interventions like M&E							

SECTION E: SMEs' Business Outcomes

The following are some business outcomes. On a scale of 1 to 7; where 1= the Least Agreement 7= the Highest Agreement, please rate your level of agreement with the under-listed statements.

No	STATEMENTS	1	2	3	4	5	6	7
	Business Sustainability							
BS1	The business easily adapts to changes in the business environment							
BS2	The business has a resilience strategy to enable it to sustain its business							
BS3	The firm has goals to enable it to sustain its operations							
BS4	The business value creation process is sustainable							
BS5	We have an appropriate risk mitigation strategy							
	Business Resilience							
BR1	The firm has performed well in times of crises							
BR2	It has an adaptable strategy in sales and marketing							
BR3	It has a resilient supply chain							
BR4	It is easy for the firm to innovate to counter threats							
BR5	We have the insight to interpret the situation and respond accordingly							
BR6	The firm has hindsight to learn from experience							
	Business Growth							

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BG1	The firm is experiencing a rising market share growth							
BG2	We are experiencing net revenue growth							
BG3	The number of our employees is growing							
	Adoption of Digitization Business Model							
DB1	The business has gadgets for internet utilization							
DB2	The business is active on social media and the online marketplace							
DB3	The venture has a strategy for maximizing virtual customer engagement							
DB4	It has experienced a digital impact financially							
DB5	It has experienced digital impact non-financially							

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