CHRISTIAN SERVICE UNIVERSITY COLLEGE

MONITORING AND EVALUATION PRACTICES AND ORGANISATIONAL PERFORMANCE: A CASE OF FOOD PROCESSING FIRMS IN SELECTED CITIES IN GHANA

BY

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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

DECLARATION

Candidate's Declaration

I hereby declare that this dissertation is the result of my own original research 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: Gloria Kakrabah-Quarshie Agyapong

Supervisor's Declaration

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

Supervisor's Signature ……. Date …….

Name: Dr Charles Osei Dumfour

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DEDICATION

To my family

ABSTRACT

The study examined the effects of monitoring and evaluation (M&E) practices on the organisational performance of food processing firms in Ghana. It specifically investigated the M&E practices adopted by these firms and how major practices comprising the baseline study, M&E budget and M&E planning affect their firms' organisational performance. This quantitative and descriptive-based research was underpinned by the stakeholder theory and the diffusion of innovations theory. The study gathered primary data via structured questionnaires from 174 sampled managers in a target population of 509 food processing firms operating in the Accra, Tema and Cape Coast cities. It focused on and gathered data from only firms that currently adopt the M&E practices. After the data collection, a data set of 157 was obtained and processed via the IBM SPSS (v.26) and SmartPLS software. Data analysis was done using the PLS-SEM technique. The study found that all the three key M&E practices (baseline, planning and budget) significantly and positively affected these firms' performance. It was concluded that adopting the M&E practices positively predict any change in the firms' performance. Hence, policy makers including the owners and management of the food processing firms should pay maximum attention to their M&E practices to attain higher organisational performance.

KEYWORDS: Baseline Study, Monitoring and Evaluation, M&E Planning, M&E Budget, Organisational Performance

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ACRONYMS

BS	Baseline Study
M&E	Monitoring and Evaluation
MEB	M&E Budget
MEP	M&E Planning
OGP	Organisational Performance

CHAPTER ONE

INTRODUCTION

The food manufacturing industry continues to dominate the manufacturing sector of several economies globally. Firms within the industry are expected to perform well to satisfy its stakeholders notably customers. In this regard, the organisational performance of food processing firms is a major concern to key parties such as government, practitioners, management as well as researchers. This has led to persistent calls for proper monitoring and evaluation (M&E) practices to ensure that their performances meet or exceed expectations. M&E practices notably baseline study, M&E planning and M&E budget ensure that these firms obtain data-driven insights, promote learning and adaptation and ensure performance review and management in order to improve their performance levels. Underpinned by the stakeholder theory, this study investigates whether M&E practices influence the organisational performance of Ghanaian food processing firms.

Background to the Study

The food manufacturing industry contributes to global dietary patterns and economic developments through job creation (15%) and income generation (10%) (Trading Economics, 2022; World Bank, 2022). The industry is increasingly gaining attention, relative to agriculture and dominates the manufacturing space. It consists of micro, small, medium and large-sized businesses that transform or preserve agricultural commodities for intermediary or final consumption (Food and Agriculture Organisation [FAO], 2021). These firms support affordable, safe and nutritious diets to safeguard human health. The Trading Economics (2022) revealed that, 85% of agricultural commodities produced in China and the Organisation for Economic Co-operation and Development (OCED) countries are processed before consumption.

In fast growing economies including African countries, the food processing industry reduces about 65% of post-harvest losses by converting the harvested agricultural commodities into consumables (World Bank, 2022). This situation is indifferent from Ghana where its food processing industry carries out similar activities which translate into income generation (6.1%) and job creation (8%) (Ghana Statistical Service [GSS], 2020). The industry dominates the manufacturing sector with about 40% of total market share and projected annual growth rate of 10% by 2025 (World Bank, 2022). The activities of Ghana's food processing firms are critical to keeping the active workforce and the entire population healthy (Food and Drugs Authority [FDA], 2021). Thus, the survival of Ghana's entire population is dependent on the industry.

Recently, Ghana's food processing industry has become highly competitive, arising from increasing globalisation, customer demands and technology adoption, which continues to threaten the survival of the "weak" ones (Agyapong et al., 2023; Opoku, 2022). The industry has also become uncertain with fluctuating customer demands, inventory issues, financial risks, rapid changes, climate change, increasing regulatory frameworks and stakeholders' increasing pressures for more quality and nutritious end-products (Agyapong, 2021; Asante, Ragasa & Andam, 2020; Nyamah, Attatsi, Nyamah & Opoku., 2022). This exposes such firms to several firm performance challenges; arguably, calling for the adoption of monitoring and evaluation (M&E) practices to regularly review, assess and address these challenges.

M&E have become a key business activity, especially during project implementation and management (Katz, Higgins, Dickson & Eckman, 2009; Kelly, Goodall & Lombardi, 2022). M&E is an essential aspect of evidence-based decision-making and continuous improvement within organisations. It is a continuous or systematic process of gathering, analyzing, and interpreting data to monitor and

evaluate the performance of activities (Katz et al., 2009; Ouma, 2016). It also describes the objective and systematic assessment of the effectiveness, relevance and sustainability of programs or activities (Kihuha, 2018). With M&E, organisations systematically collect and analyse data to determine the degree to which project goals have been attained (Letsolo, 2022; Musyimi & Ondara, 2022).

Traditionally, M&E practices were examined by focusing on effective resource utilisation, but they have become a requirement for achieving organisational success in recent times (Chege & Bowa, 2020). M&E practices are a management strategy for locating and resolving issues related to organisational planning, implementation, and evaluation. Kelly et al. (2022) asserted M&E practices ensure that any information gathered within an organisation is properly assessed to address any related problems. Through the provision of precise or fact-based information based on data collected from stakeholders, their adoptions improve the effectiveness and efficiency of initiatives. Through factual outcomes, M&E processes ensure that organizations meet criteria (Mbijiwe, 2021).

M&E practices include baseline study, M&E planning and M&E budget (Kissi et al., 2019; Lim & Mohamed, 1999; Project Management Institute, 2020); where the baseline study focuses on the initial assessment of key indicators before an activity or program is executed. It serves as a benchmark against which future changes and progress can be measured (Lim & Mohamed, 1999). M&E planning also focuses on developing a comprehensive plan to check project costs, its implementation and progress. The plan also captures the feasibility of the projected project activities as well as the project's timeliness. The M&E budget ensures that organisations provide a budget to cover the M&E expenses (Kissi et al., 2019). It enables organisations to

execute M&E practices and other projects within the required financial thresholds over a given period.

The M&E practices play crucial roles in achieving the performance objectives of various organisations including food processing firms (Kissi et al., 2019). For instance, when food processing firms set realistic targets and consistently monitor and review their progress, they tend to identify the shortfalls and address them in order to meet those targets. Similarly, M&E practices provide valuable information and insights for learning, decision making and continuous improvement; thereby, promoting positive performance outcomes (PP) (financial performance, operational performance, social and environmental responsibility, customer responsiveness, innovation and adaptability) (Maendo, James & Kamau, 2018;). This indicates that the performance of food processing firms in Ghana can be improved if attention is given to the M&E practices.

The stakeholder theory posits that the activities of organisations like food processors affect and are affected by stakeholders who have varying interest in them (Freeman, 2015). The theory emphasises the need for organisations to consider the interest of stakeholders in the M&E processes (Parmar et al., 2010). It also posits that food processors should adopt M&E practices to regularly assess their policies or activities to ensure that they do not affect the stakeholders negatively (Jones, Wicks & Freeman, 2017). It encourages these firms to consider the diverse expectations and needs of stakeholders when adopting and investing in M&E practices in order to meet performance targets (Miles, 2017). The theory, therefore, supports the arguments that M&E practices directly affect the performance of food processing firm in Ghana.

Food processing firms in Ghana likewise those in other economies are required to perform well in order to consistently meet their stakeholders' expectations. Given the competitive and uncertain nature of Ghana's modern-day food processing industry, it has become crucial for its firms to constantly monitor and evaluate their activities. This will help the firms to easily detect and address possible risks as well as ensure continuous performance improvements (Kihuha, 2018). Maendo et al. (2018) claimed that when firms including food processors fail to implement M&E practices, it would affect their ability to obtain factual information to manage change, risks and overall performance. Although M&E practices have been linked with organisational performance in various industries and economies, can same be actually said of food processing firms in Ghana? The study also investigates the level of adoption of the M&E practices in Ghana's food processing industry.

Statement of the Problem

The food processing industry continues to expand rapidly across the globe especially in the face of globalisation and technological advancements (FAO, 2021, World Bank, 2022). The industry has become very competitive and its firms are under pressure to match the demands of the fast-growing global population (FAO, 2021). Despite this, there is growing concern about poorly processed foods which negatively affect human health and overall dietary quality (FAO, 2021). Also, the organisation reported that about 39% of adults were considered obese or overweight in 2016 as results of foods with too many calories. Afshin et al. (2019) revealed that poor diets led to the deaths of 11 million people globally in 2017. The World Health Organisation (WHO) (2021) also reported that humans face health dangers due to over consumption of salt, sugars, oil and fats in most processed foods.

The health-related problems arising from low quality foods are not any different from those developing economies (Vandeplas & Minten, 2015). In Ghana, the food processing industry remains underdeveloped despite the increasing consumers' demands and technological advancements (Agyapong et al., 2023; Nyamah et al., 2022). The industry continues to struggle to leverage the growing domestic demands for processed drinks and foods; a situation that weakens their performance levels. This menace has largely been linked to inadequate supply of quality raw materials, lack of modern equipment and machines, poor inventory management practices, poor innovation, excessive financial risks, access to finance issues, and lack of proper food processing knowledge, skills and technologies (Agyapong, 2021; FDA, 2021; Ministry of Food and Agriculture [MoFA], 2022; Nyamah et al., 2022; Opoku, 2022).

In recent times, intervention measures such as planting for food and jobs, subsidies on agro-processing tools and seeds, increased investment in the agriculture and agro-processing sector, increased market opportunities, new processing technologies, as well as the provision of regular training programs to farmers, have all been implemented to address the performance woes in the food processing industry (Antwi-Agyei & Stringer, 2021; MoFA, 2022). However, due to the questionable level of adoption of M&E practices among food processing firms, these interventions have not yielded the expected results. In this regard, these firms continue to face severe performance issues which threaten their survival and competitiveness.

Poor adoption of M&E practices restrict access to data-driven information required by organisations to ensure continuous performance improvements (Kissi et al., 2019). Chege and Bowa (2022) added that poor adoption of M&E affects organisations' ability to use available resources prudently. Is this situation different from food processing firms in Ghana? Arguably, M&E practices are needed for such firms to set

realistic targets, inform decision making and track progress in order to build strong organisational performance (OP). However, previous studies on M&E practices and OP have focused on construction firms (Chege & Bowa, 2020; Kihuha, 2018; Maendo et al., 2018; Tengan & Aigbavboa, 2017) with little or no attention on the manufacturing sector notably the food processing industry. In Ghana, for instance, Kissi et al. (2019) and Tengan and Aigbavboa (2021) investigated M&E practices within the construction industry hence, the urgent need for this present study.

Purpose of the Study

The study investigates the effects of monitoring and evaluation (M&E) practices on the organisational performance of food processing firms in selected cities in Ghana.

Research Objectives

The ensuing research objectives were created in light of the study's purpose to:

1. examine the effect of the adoption of baseline study on the organisational performance food processing firms
2. examine the effect of the adoption of M&E planning on the organisational performance food processing firms
3. analyse the effect of the adoption of M&E budget on the organisational performance of food processing firms

Research Questions

These research questions are covered in this study:

1. What is the effect of adoption of baseline study on the organisational performance of the food processing firms?
2. What is the effect of adoption of M&E planning on the organisational performance of the food processing firms?

3. What is the effect of adoption of M&E budget on the organisational performance of the food processing firms?

Significance of the Study

The study examines M&E practices and organisational performance of food processing firms in Ghana. It specifically identifies the various M&E practices adopted by the firms as well as the effects of key M&E practices comprising baseline study, M&E planning and M&E practice on the performance of these firms. In view of this, the study's outcomes are expected to improve existing policies, practices and current literature related to M&E and organisational performance. The study's outcomes, for instance, would assists policymakers, especially in the food processing industry, to develop relevant policies that aim at improving the adoption of M&E practices. Precisely, the outcomes would provide the framework required to ensure that proper M&E policies are developed and reviewed to improve organisational performance.

The study's outcomes would also provide the needed information to assist managers within the food processing industry in adopting and investing in the most appropriate practices. This will ensure effective monitoring and evaluation; thereby, translating into stronger project and overall performance. For instance, the study would expose management of the food processing firms to the actual M&E practices (baseline study, M&E planning and M&E budget) that yield stronger project performance in the food processing industry.

Finally, the study would contribute to existing literature on M&E practices and organisational performance within the context of the manufacturing industry of Ghana. This would also assist potential researchers in obtaining the needed information to support or disapprove their findings on M&E practices and firm performance outcomes.

The study would also provide relevant suggestions for further research to assist potential researchers in conducting studies that would bridge existing literature gaps.

Delimitations

The study is conducted in relation to M&E practices and organisational performance. It focused on three key M&E practices comprising baseline study, M&E planning and M&E budget; and also focused on organisational performance. In terms of geography, the study focused on selected cities comprising Accra, Tema and Cape Coast metropolises in Ghana; hence, it excluded the other cities in the country. It also focused on only the food processing class of the manufacturing industry. In this regard, other classes such as plastic, rubber, wood, metal, aluminium and chemical processing firms within the manufacturing industry were all excluded.

The study focused on these three practices because they form the basis for M&E adoption. Arguably, the relevance of the other practices such as M&E framework, M&E specification and frequency, midterm and end-term evaluation and M&E scheduling (Kissi et al., 2019; Muzinda, 2007) could be dependent on these key practices. The baseline study practice provides the foundation for M&E activities; thus, serves as a reference point against which future progress and the impacts of the other practices are measured and compared. The M&E budget allocates the funds required to conduct the M&E activities. With this practice, firms are likely to spend beyond their financial strengths and face severe consequences. Therefore, given their high adoption and relevance, these practices formed the basis of this present study.

Limitations

Although the study makes valuable contributions to the food processing industry of Ghana in terms of M&E adoption, it was still exposed to some limitations.

For instance, due to its reliance on a quantitative methodology, the study was only able to collect data via a structured questionnaire. This instrument also exposed the study to limitations such as non-responses, missing values, incompletely filled questionnaires and possible response bias which consequently affected the quality and quantity of data needed for further analysis. Also, the study's use of close-ended questionnaires to avoid excessive variations in the responses prevented the respondents from providing information outside those indicated in the questionnaire. This prevented the researcher from obtaining more information that could have enriched the study's data and associated results.

Organisation of the Study

The study had five chapters where Chapter one focused on the study's introduction in terms of background, statement of the problem, purpose, research objectives as well as research questions. Chapter two reviewed literature under theoretical, conceptual and empirical reviews. It also developed a conceptual framework. "Chapter three focused on the study's research methods by describing the research approach, design, data collection instrument and data processing and analysis. Chapter four presented the study's results and discussion and finally, Chapter five presented the study's summary, conclusions and recommendations for policy formulation and further research".

CHAPTER TWO

LITERATURE REVIEW

Introduction

The chapter reviews related studies on monitoring and evaluation practices and organisational performance. The reviews were done under four key sub-sections such as "theoretical review, conceptual review, empirical review and conceptual framework".

Theoretical Review

The study is underpinned by the stakeholder theory and diffusion of innovations theory. These theories were adopted given their relevance in investigating issues related to M&E adoption.

Stakeholder Theory

The stakeholder theory was advocated in 1984 by Edwarrd R. Freeman, a noble professor and organisational theorist (Freeman, 2015). He challenged the common notion that organisations exist solely to improve shareholder value by arguing that they should have a broader scope by considering all stakeholders' interests (Freeman, Harrison, Wicks, Parmar & De Colle, 2010). Freeman's work has positively influenced the field of management and widely adopted by practitioners and researchers. The theory is underpinned by some assumptions; for instance, it assumes that organisations have several stakeholders with legitimate interests in their activities (Baumfield, 2016; Freeman, 2015). These stakeholders including individuals, suppliers, customers, employees, local communities and government entities affect or are affected by the organisations' activities or actions.

The stakeholder theory also argues that organisations and stakeholders are interdependent and that their actions and interest can influence each other (Freeman, 2015). These parties form relationships that involve mutual exchanges and outcomes. Also, organisations should create value for all stakeholders, instead of concentrating solely on maximising shareholders value. The theory recognises that creating stakeholders' value contributes to the organisations' long-term success and sustainability. It also assumes that organisations should adopt a long-term philosophy and consider the impacts of their actions and decisions overtime (Bonnafous-Boucher & Rendtorff, 2016).

The stakeholder theory provides a management framework that assumes that organisations should consider all stakeholders' (government entities, customers, suppliers, employees, local communities) interests and needs, not just their owners or shareholders (Bonnafous-Boucher & Rendtorff, 2016). It posits that organisations have the responsibility to create value for all stakeholders because they operate in a dynamic external environment where stakeholders' expectations can change (Freeman, Kujala, Sachs & Stutz, 2017). Hence, organisations need to be responsive and adaptable to the changes, continuously engage with stakeholders and adjust their practices to meet changing demands and needs. Given the assumptions, the theory provides insights into identifying and managing relationships with stakeholders across different organisational contexts (Freeman, 2015; Valentinov & Chia, 2022).

Regarding the study, A framework for comprehending the function of monitoring and evaluation (M&E) in relation to stakeholders is provided by the theory. According to the notion, organizations, particularly those in the food processing industry, have a duty to take into account the interests of its stakeholders, and M&E is essential to fulfilling that duty (Freeman, 2015). M&E offers the mechanism for

involving stakeholders in evaluating projects and programs. By seeking their input, perspectives and feedback, organisations can identify and address their concerns during the M&E. The theory asserts that M&E adoption plays a crucial role in identifying and solving the various problems facing all stakeholders in order to improve the organisations' performance levels (Karimi, Mulwa & Kyalo, 2020).

Moreover, the stakeholder theory proposes that food processing firms in Ghana would struggle to achieve high project performance if their M&E practices do not support or address the concerns or expectations of all stakeholders. The theory adds that these firms cannot successfully execute their activities including the adoption of M&E practices if they fail to consider their stakeholders' interests and concerns (Karimi et al., 2020; Kusters et al., 2018). Stakeholders' activities or actions are critical to the success or failure of the food processing firms; hence, their involvement in the M&E activities are crucial to achieving positive organisational performance. Therefore, the theory supports that M&E practices are key to improving organisational performance within Ghana's food processing industry.

Diffusion of Innovations Theory

Everett Rogers, a sociologist and communications expert, created the diffusion of innovations theory in 1962 (Greenhalgh, Robert, Macfarlane, Bate & Kyriakidou, 2004). The theory describes how new ideas, practices or strategies are adopted and spread within a social system. It has several assumptions including innovativeness, communication channels, social systems, time and adoption decision making (Dearing, 2009). With innovativeness, the theory assumes that members can be grouped based on their level of innovativeness. The communication channel dimension also assumes innovation can only spread within a system through clear communication channels.

Also, the diffusion of innovations theory assumes that diffusion occurs within social systems like organisations or societies (Kaminski, 2011). As such, the features or structural setting of those systems affect the pattern and rate of adoption. The theory also assumes that diffusing innovation requires time to spread; thus, it's not an instantaneous process. The process of adoption further requires a rational decision-making process by potential adopters, who measure the perceived attributes of the innovation against their needs, social norms and beliefs (Weil, 2018). Given these assumptions, the theory offers key insights into the process of how innovations are adopted within a social system.

Concerning the study, the diffusion of innovations theory explains how M&E practices are adopted and spread within the food processing industry of Ghana. According to the theory, food processing firms adopt M&E practices based on attributes such as perceived usefulness, ease of data collection, perceived usefulness as well as potential benefits. Hence, M&E practices comprising baseline study, M&E planning and M&E budget would be adopted and spread if management of these firms perceive that they would lead to positive outcomes like high organisational performance. The theory also posits that the firms' organisational culture and structure must support the adoption of the practices. After their adoption, the practices may also require time to develop and spread before it can contribute significantly to organisational performance.

Conceptual Review

The study's key concepts are reviewed in this section. It specifically discusses monitoring and evaluation, its practices comprising baseline study, M&E planning and M&E budget as well as project performance.

Monitoring and Evaluation

Monitoring and evaluation (M&E) have become a key aspect of organisational management; hence, needed to keep the wheels of organisations moving (Govender, 2013; Hapunda, 2018). Govender (2017) defined M&E as the development of relevant processes to ensure systematic collection and analysis of evidence-based information. It is an organisation's ability to collect and analyse information to assess the rate at which set goals are accomplished (Jili & Mthethwa, 2016). It focuses on the effectiveness and efficiency of a particular action or activity. M&E also supports objective decision-making processes to achieve set organisational objectives (Govender, 2017). When organisations notably food processing firms conduct M&E, it provides them the needed information to correct discrepancies, keep their activities or operations on schedule as well as ensure continuous performance improvement.

Monitoring and Evaluation Practices

Monitoring and evaluation (M&E) practices are the various patterns that have been identified to ensure positive implementation and management of an organisation's policies, practices or techniques. This section discusses three key M&E practices comprising baseline study, M&E planning and M&E budget.

Baseline Study

The baseline study (BS) plays critical roles in M&E activities by providing a benchmark for assessing project or program effectiveness (Rogito, 2010; Kissi et al., 2019). This practice is considered as the first practice which is adopted at the beginning of a project or activity to set the benchmark against which future progress and organisational outcomes can be assessed (Kissi et al., 2019). With BS, the organisation or defines the objectives and performance indicators to conduct an activity, develop appropriate data collection tools, identify effective avenues to source data and

determine sampling methods. It also helps these organisations to collect, process and analyse data and report or share findings with relevant stakeholders (Micah & Luketero, 2017). Organisations including food processing firms can also rely on the baseline findings to prepare M&E plan to guide the execution of M&E and other firm-related activities.

Monitoring and Evaluation Planning

M&E planning (MEP) is another practice for M&E adopted by several organisations (Jacobs, Barnett & Ponsford, 2010). According to Kissi et al. (2019), MEP represents the second M&E practice which focuses on all the planning activities on which organisational activities rely on. It is characterized by capacity planning, budgetary resources, deadlines, viability, and ethics (Armstrong & Baron, 2013). This practice ensures that organisations develop comprehensive plans for their activities, set timelines to effectively accomplish them as well as cover the planning for all organisational activities (Warinda, 2019). Additionally, it guarantees that all organizational activities are subject to proper risk assessment and mitigation planning to reduce potential risk exposure (Kissi et al., 2019).

Monitoring and Evaluation Budget

M&E budget (MEB) is the third practice in M&E which focuses on budget preparation to guide an organisation's operations (Armstrong & Baron, 2013). MEB ensures that there is adequate provision for every activity in an organisation. Muzinda (2007) revealed that MEB ensures that HIV/AIDS projects, for instance, are executed within well prepared budgets containing the cash inflows and outflows. Nyonje, Ndunge and Mulwa (2012) also stressed that MEB enables organisations to allocate financial resources for the planning, execution and management of M&E and other activities within an organisation. It, therefore, contains all cost estimations associated

with data collection, analysis and interpretation, equipment and technology, information dissemination as well as training and capacity building of personnel (Kissi et al., 2019; Njeru & Kirui, 2022).

Factors Influencing the Adoption of Monitoring and Evaluation Practices

This section discusses the various factors influencing the adoption of M&E practices. After extensive reviews, these factors were found to include organisational culture, policy and regulatory frameworks, stakeholder involvement, staff competences, budget allocation, resource availability, cost implications and availability of data systems (Micah & Luketero, 2017; Nabulu, 2015). Organisational culture includes the policies, structures, values and attitudes that support an organisation's operations (Mugera & Sang, 2017; Oh & Han, 2020). Akinyi and Kisimbii (2020) revealed that if an organisation's culture does not support M&E practices, their adoption become ineffective and unsuccessful. Also, when key stakeholders such as local people, government agencies, top management and customers support the M&E, adopting its practices in an organisation yields positive results (Rumenya & Kisimbi, 2020).

According to Rumenya and Kisimbi (2020) an organisation's staff competences (skills, knowledge) regarding the M&E practices influence their adoption. They explained that when organisations do not have competent staff to handle M&E initiatives, they struggle to successfully adopt them. Akinyi and Kisimbii (2020) revealed that the quantum of resources (human, financial, technological) available to implement the M&E practices is crucial. Insufficient resources can affect the adoption of robust M&E practices and vice versa. Eremugo and Okoche (2021) suggested that every organisation is guided by external policies and regulatory frameworks. If the

framework does not support the M&E practices, their adoption would be extremely challenging since it could even expose such organisations to several law suits.

Letsolo (2022) revealed that organisations need to consider the cost implications associated with the M&E practices before adopting them. They explained that if the costs of M&E adoption exceed an organisation's revenues, it could have severe negative repercussions on its overall financial structure. Also, organisations that possess proper data systems including data collection tools, databases and analytical software are well equipped to collect, analyse and report data to ensure proper M&E. Letsolo, Wanjiru and Gaiku(2022) also asserted that budget allocation can influence M&E adoption. They explained that budget allocation is a crucial dimension of financial management which plays a key role in decision-making and resource planning. This present study investigates these factors within the context of the food processing industry.

Organisational Performance

Organisational performance (OGP) is an umbrella term that covers all activities identified with an organisation's achievement (Jyoti & Rani, 2017). According to Kafetzopoulos and Psomas (2015), OGP focuses on what constitutes, acknowledges, and communicates the drivers of success, supports organizational learning, and provides a foundation for performance evaluation and incentives. Organisations with meaningful performance measures are able to coordinate their activities towards accomplishing their strategic objectives. Mwangi and Waithaka (2018) also defined OGP as a generic term that refers to a portion or all of an organisation's activities executed in line with predicted operating cost, efficiency and management responsibility. OGP ensures that organisations meet the capacity levels, improve their

operational and financial strengths as well as minimise operating costs (Jyoti & Rani, 2017).

Kafetzopoulos and Psomas (2015) indicated that OGP ensures that an organisation has the ability to accomplish expected tasks. Singh, Darwish and Potočnik (2016) revealed that OGP is generally measured via financial and/or non-financial indicators where the financial dimension comprises profit margin, sales growth, production costs, return on equity, return on assets, among others (Jyoti & Rani, 2017; Singh et al., 2016). The non-financial indicators, on the other hand, include meeting quality expectations, environmental consciousness, customer satisfaction, resource efficiency and improving firm reputation or goodwill (Farrukh, Meng, Sajid & Shahzad, 2020).

Empirical Review

Reviews of relevant literature on the study's objectives were the main subject of this section. This was done to gather sufficient data from prior research to support or refute the study's findings. In order to create the study's hypotheses, the reviews were also conducted to determine where there were gaps in the literature.

Monitoring and Evaluation Practices and Organisational Performance

This section reviews related literature on the M&E practices and organisational performance. The reviews were done to aid in the development of the study's hypotheses in relation to (a) baseline study and organisational performance (b) M&E planning and organisational performance and (c) M&E budget and organisational performance.

Baseline Study and Organisational Performance

Baseline study (BS) describes the initial assessment carried out at the start of an activity in an organisation (Rogito, 2010). BS collects data to develop a benchmark against which future progress and performance can be evaluated (Kissi et al., 2019). Despite its importance in M&E, the effect of BS on ORG has not received the needed attention. The section, therefore, reviews the few related literature on this relationship. Phiri (2015) purposely examined M&E on project performance at African Virtual University (AVU). The study adopted the quantitative approach to examine the effect of BS on project performance. It employed both qualitative and quantitative tools to analyse the data and found BS to positively affect the project performance of AVU. Despite this finding, the study had no theoretical underpinning and it was also limited to only AVU; thus, its replication in Ghana's food processing industry.

Kissi et al. (2019) used a quantitative approach to analyse how M&E practices affect project performance for the Ghanaian construction sector. The study examined the effect of BS on each project success criteria. Relying on the PLS-SEM analytical tool, the study found the BS to negatively affect "cost performance, environmental performance, health and safety performance, project schedule performance and project quality performance". It also found BS to positively affect relationship with project stakeholder but had no significant effect on project scope within the construction industry. The study was limited to construction firms in Ghana, thus, generalising its findings across firms in the manufacturing industry can be misleading. Also, the study focused on the project success criteria while this present study focuses on OGP.

Tahlil (2019) investigated M&E and OGP of the United Nations (UN) High Commissioner for refugees in Somalia. Although the study had no theoretical underpinning, it employed the descriptive-correlation design to examine the effect of

BS on OGP. It relied on descriptive analysis (mean and standard deivation) and found BS to influence OGP. The study had methodological, theoretical and geographical limitations which justified replication in Ghana's food processing industry. When Njeru and Kirui (2022) looked at M&E practices, particularly BS, on the success of road construction projects in Kenya, they came to a similar conclusion. It adopted both descriptive and explanatory designs. Despite its finding, the study had no theoretical underpinning and was also limited to Kenyan construction industry.

Deductively, previous studies have largely been exposed to several methodological weaknesses arising from small sample size and reliance on inappropriate data processing and analytical tools. In terms of theory, most of the papers reviewed had no theoretical underpinning which affected the foundations upon which their respective studies were conducted. Additionally, the majority of earlier studies have been on initiatives run in nations other than Ghana. It is to note that, the study directly focusing on Ghana was conducted by Kissi et al. (2019). The study focused on the construction industry, leaving a paucity of research within the context of the manufacturing sector specifically the food processing industry. On this note, the study hypothesised that:

H_1: Baseline study has a significant positive effect on organisational performance

Monitoring and Evaluation Planning and Organisational Performance

M&E planning (MEP) is the process of designing a systematic approach and framework for M&E activities to attain expected outcomes (Hubert & Mulyungi, 2018; Kissi et al., 2019). It helps organisations to identify key performance indicators, timelines, objectives and methods for executing an activity. With MEP, organisations can obtain reliable and relevant information which help them to align their M&E

initiatives with their organisational needs and goals in order to exceed performance targets. In view of this, some studies have linked MEP with project and/or organisational performance (OGP) (Hubert & Mulyungi, 2018; Ngochi, Mbugua & Thiong'o, 2020). The ensuing paragraphs review literature on the causal relationship between MEP and OGP.

Hubert and Mulyungi (2018) also determined if M&E planning had an impact on NGOs' project outcomes in Rwanda. A random sample of 106 participants was chosen for the study from a target group of 144 M&E specialists working for 72 NGOs in the Gasabo district. The study used a descriptive survey approach. The data obtained via structured questionnaire was processed using the SPSS software and analysed with the correlation analytical tool. It was found that M&E planning positively correlates with the NGOs project performance. Although the study contributed to literature on M&E planning and project performance, its outcome was, however, limited to only NGOs in Rwanda. The study was methodologically weak because it adopted the correlation tool to analyse "influence". It also focused on only project performance which created a literature gap for investigation in relation to organisational performance.

Ngochi et al. (2020) examined how M&E functions affected the success of a few Kenyan constituency development fund initiatives. The study's goal was to investigate how M&E planning affected project performance utilizing a descriptive approach and a target population of 180 M&E staff. The study sampled 55 respondents and gathered primary data from them. When the data was analysed using the linear regression method, it was discovered that M&E activities, particularly M&E planning, had an impact on the success of the constituency's projects. Despite this finding, the study was methodologically weak because the sample size of 55 was small for

quantitative analysis. Also, it focused on development fund projects, thus, replicating this study in other geographical and industrial setting was appropriate.

In Mogadishu, Somalia, Tahlil (2019) looked into the function of M&E in the OGP of the UN High Commissioner for Refugees. The study, which used a descriptive approach, examined the impact of the M&E plan on OGP in addition to other goals. The study used 158 respondents as a sample and used interviews and a structured questionnaire to get data from them. SPSS software was used to handle the data, and descriptive analysis was performed (frequencies, percentages, mean and standard deviation). Despite the use of wrong analytical tool, M&E plan was found to positively affect OGP. Precisely, the use of descriptive tools in a study of this nature was inappropriate; hence, affecting the quality and relevance of the findings. Also, the study focused on the OGP of UN high commissioner for refugees in Rwanda.

Tahlil (2019) examined the part that M&E played in the OGP of the UN High Commissioner for Refugees in Mogadishu, Somalia. The study's analysis of the impact of the M&E plan on OGP was one of its other goals, and it did so by using a descriptive design. With the help of a standardized questionnaire and interviews, the study gathered data from 158 randomly selected participants. Using the SPSS program, the data was processed and descriptively analysed (frequencies, percentages, mean and standard deviation). They concluded that the project performance in Kenya's education sector would improve if they adopt M&E plan. Despite this finding, the study was limited to the Mombasa County, thus, generalising the findings in other economies like Ghana can be misleading. The study also focused on the education sector, thus its replication within the context of the food processing industry.

Anita and Wairimu (2022) investigated results-based M&E systems on performance of CDF funded projects in Naoribi County, Kenya. This descriptive-based study adopted the stakeholder theory, results-based management theory and human capital theory to assess the effect of M&E planning on performance. The study randomly sampled 99 members from a target population of 498 project management members. Data was collected via structured questionnaires and analysed via descriptive and inferential techniques. It was shown that there is a direct correlation between M&E planning and project performance for CDF-funded projects. In this regard, the study was limited to only CDF funded projects in Kenya; thus, its outcome cannot be generalised across manufacturing firms in Ghana. Also, the study's sample size was woefully inadequate for inferential analysis.

From the foregoing, previous research has largely focused on project performance with little attention on OGP. Also, none of the papers reviewed was conducted in the manufacturing sector specifically the food processing industry. Previous studies have also been exposed to theoretical and methodological weaknesses. This is because, most of the studies had no theoretical underpinning which questioned the basis for the research. Also, some of the studies had small sample sizes, hence, generalising their findings can be problematic. In view of this, the study hypothesised that:

H_2: M&E planning has a significant positive effect on organisational performance

Monitoring and Evaluation Budget and Project Performance

M&E budget (MEB) describes the financial planning and allocation specifically for M&E activities within a project or organisation (Kisssi et al., 2019; Ouma, 2016). Despite its relevlance, few studies have linked MEB with project or organisational

performance. For instance, Njuguna (2016) looked into the elements affecting the effectiveness of M&S systems in Kenyan educational programs supported by NGOs. To evaluate the impact of budgetary allocation, the strength and training of the M&E team, and stakeholder participation on performance, the study adopted a descriptive approach. Data was gathered from project managers and M&E staff of NGOs implementing educational projects. Based on the regression output, the study found budget allocation to expand the performance of the M&E systems. Despite the finding, the study had no theoretical underpinning and geographical limitation.

Kissi et al. (2019) used a quantitative technique to examine how project M&E procedures affected the project success criteria in Ghana's construction sector. Although the study had no research design, it examined the effect of M&E budget (MEB) on the project success criteria by gathering data from 120 purposively sampled professional in Ghana's construction industry using the structured questionnaire. Out of the questionnaires distributed 81 of them were considered valid and appropriate for processing using the SmartPls software. The data was analysed via the PLS-SEM technique and found MEB to affect cost performance (+), health and safety performance (-), project quality performance (+), and project scope (-).

Kissi et al. (2019) also found that MEB had no significant effect on environmental performance, relationship with stakeholders and project scope. The results show that MEB had inconsistent significant effects on the success criteria of projects in the construction industry in Ghana. Despite the findings, the study was limited to the construction industry; thus, the findings cannot be generalised across the manufacturing industry. Additionally, the study's sample size was limited, which had an impact on the generalizability and overall quality of its findings. The study also had

no theoretical underpinning which weakened the foundation upon which the study was established.

In Tanzania's local government authority, Asukile and Mbogo (2022) looked at the budgetary procedures and financial results. The study looked at a number of different goals, including the impact of participatory budgeting and budget execution on the efficacy and efficiency of projects as they relate to budget performance. The study adopted the survey approach and obtained its data via questionnaires. Data processing was done using the SPSS software and analysed through correlation and multiple linear regression. It was found that budget execution and participatory budget significantly and positively affect budget performance of Tanzanian LGAs. Despite the finding, the study had no theoretical underpinning as well as paid attention to only budget performance. Its outcomes are also limited to Tanzania's LGA, thus, remains uncertain whether similar outcome can be obtained in Ghana's manufacturing industry.

It could be seen from the reviews that studies directly linking M&E budget with organisational performance remain scarce. These related studies were also exposed to some limitations in areas of theoretical underpinning, methodology and geography/contextual. Although Kissi et al. (2019) conducted their study in Ghana, they focused on the construction industry other than organisational performance. Also, their sample size was less than 100 which is generally inadequate for quantitative analysis. Given the weaknesses coupled with the inadequacy of literature, the study proposed that:

H_3: M&E budget has a significant positive effect on organisational performance

Conceptual Framework

The section describes the framework designed to provide a graphical representation of the study's objectives. The framework is developed using two variables: independent (M&E practices) and dependent (organisational performance). Figure 1 presents the study's conceptual framework.

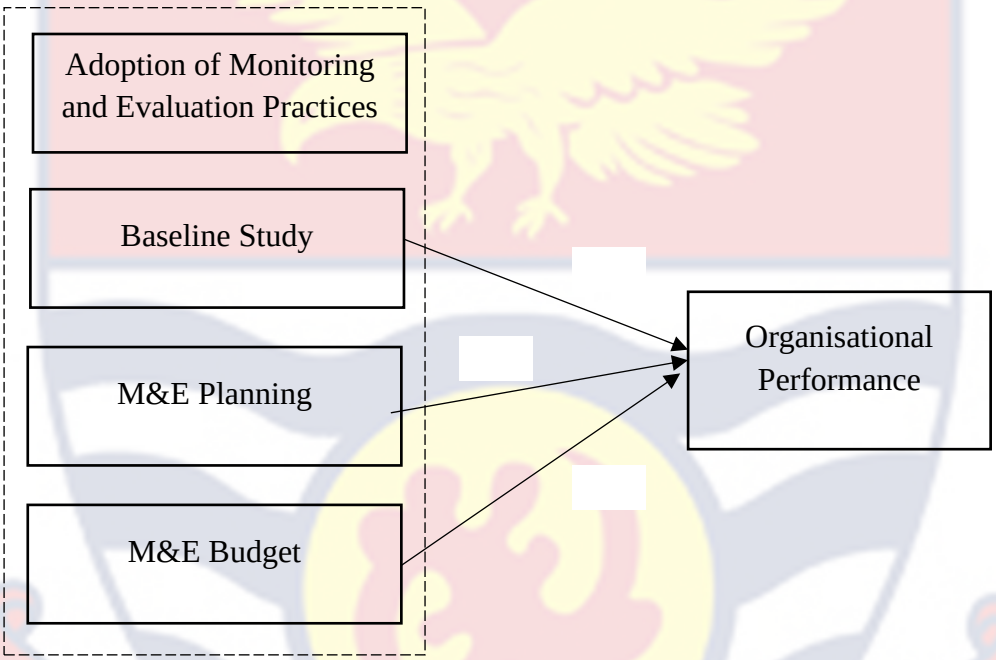

Figure 1: Conceptual Framework of the Study

Source: Author's Construct (2023)

From Figure 1, M&E practices consisted of three key practices: baseline study, M&E planning and M&E budget. Three arrows moved from the three practices to point at organisational performance, the outcome variable. This demonstrates that, in the context of Ghanaian food processing enterprises, there is a relationship between M&E practices and organisational performance. Precisely, the framework reveals the following causal relationships: (a) baseline study and organisational performance (b)

M&E planning and organisational performance and (c) M&E budget and organisational performance.

Chapter Summary

Four major subsections were used to organise the chapter's discussion: "theoretical, conceptual and empirical reviews, and conceptual framework". The stakeholder theory and the diffusion of innovations hypothesis were specifically covered in this chapter. In particular, M&E, its procedures, and organizational performance were assessed. The goals of the study were the subject of thorough reviews. A conceptual framework was developed to bring the chapter to a close.

CHAPTER THREE

RESEARCH METHODS

Introduction

"The chapter presents the methods and techniques used in conducting the study. It discusses the research approach, design, population, sampling procedures and data collection instrument. Other key issues such as validity and reliability, ethical considerations and data processing and analysis were also discussed in the chapter".

Research Approach

This study adopted the quantitative approach because its research objectives require systematic and quantitative analysis to obtain objective outcomes (Creswell & Clark, 2017). The approach relies on the deductive reasoning which is suitable for testing hypotheses derived from the tenets of a theory (Patten, 2017). This study specifically examines the stakeholder theory-based causal link between M&E practices and performance. They were tested through scientific means using quantitative tools like questionnaire and multiple linear regression. The approach also allows researchers to describe situations by gathering information and transforming them into numerical form which is suitable for descriptive analysis (Walliman, 2021).

The quantitative approach offers the procedures for addressing the study's research objectives. The approach specifically provides the descriptive analytical tools comprising means and standard deviations for addressing the study's objective one. It also provides the appropriate statistical tools notably multiple linear regression to analyse data obtained to address the study's objectives two to four. It further allows researchers to obtain primary data from a relatively large group and analyse them via scientific processes to obtain objective and generalisable outcomes (Walliman, 2021). Therefore, the approach is appropriate for achieving all the study's research objectives.

Research Design

Given the study's quantitative nature and the research objectives, the study adopted the descriptive research design. The design helps researchers to address issues associated with "what" instead of "why" (Creswell & Clark, 2017). It "describes" subjects or situations without necessarily covering when, what, where, why and how they occur. The design focuses on the systematic collection of quantifiable information to describe a situation or phenomenon. With this design, the data obtained serves as basis for further research in order to obtain detailed understanding of research questions in order to properly answer them (Creswell, 2014). The design is conducted using the cross-sectional design which enables researchers to gather primary only once from a set of respondents (Creswell & Creswell, 2017).

The descriptive design uses quantitative techniques to collect, process and analyse data aimed at describing or explaining events (Patten, 2017). Regarding the study, primary data via structured questionnaires are obtained from owner-managers of food processing firms in selected cities in Ghana. The design also allows the use of processing tools like the IBM SPSS software to process the data obtained and analyse it via both descriptive and inferential tools in order to address all the research objectives (Kumar, 2018). Practically, the design allows the use of PLS-SEM to achieve the study's objectives.

Study Area

The study focused on three selected cities in Ghana comprising Accra, Tema and Cape Coast metropolises. It focused on food processing firms currently operating within these major cities. The Accra city, for instance, is the capital city of Ghana and among the 26 local authority and administrative districts in the Greater Accra region. It was created by the Local Government Act of 1993 (Act 462), which was enacted under

legislative act 1615, and it today serves as Ghana's industrial centre, housing around 45 percent of the nation's manufacturing companies, including food processors. The Tema metropolis comprises four districts (North, West, South and East) with no rural settlements. It is among the fast-growing cities in Ghana with about 32% of the total food processing firms in the country currently located there (GEA, 2021).

In Ghana's Central area, there are 22 metropolitan, municipal, and district assemblies, including the Cape Coast one. Currently serving as the region's capital is Cape Coast, which was formerly Ghana's capital. According to GSS (2020), Cape Coast is known for agricultural-related activities (60% of its active population) notably fishing and farming. This city also boosts of several educational institutions and tourist sites. It is also known to have a number of manufacturing firms dominated by micro, small and medium-sized businesses. In terms of food processing, about 16% of such firms operating in the country are currently located there. With these cities boosting of about 70% of the entire food processing firms in Ghana, obtaining data from their owner-managers can provide appropriate findings suitable for generalisation across the entire food processing industry in Ghana. Figure 1 presented the geographical map of the study areas.

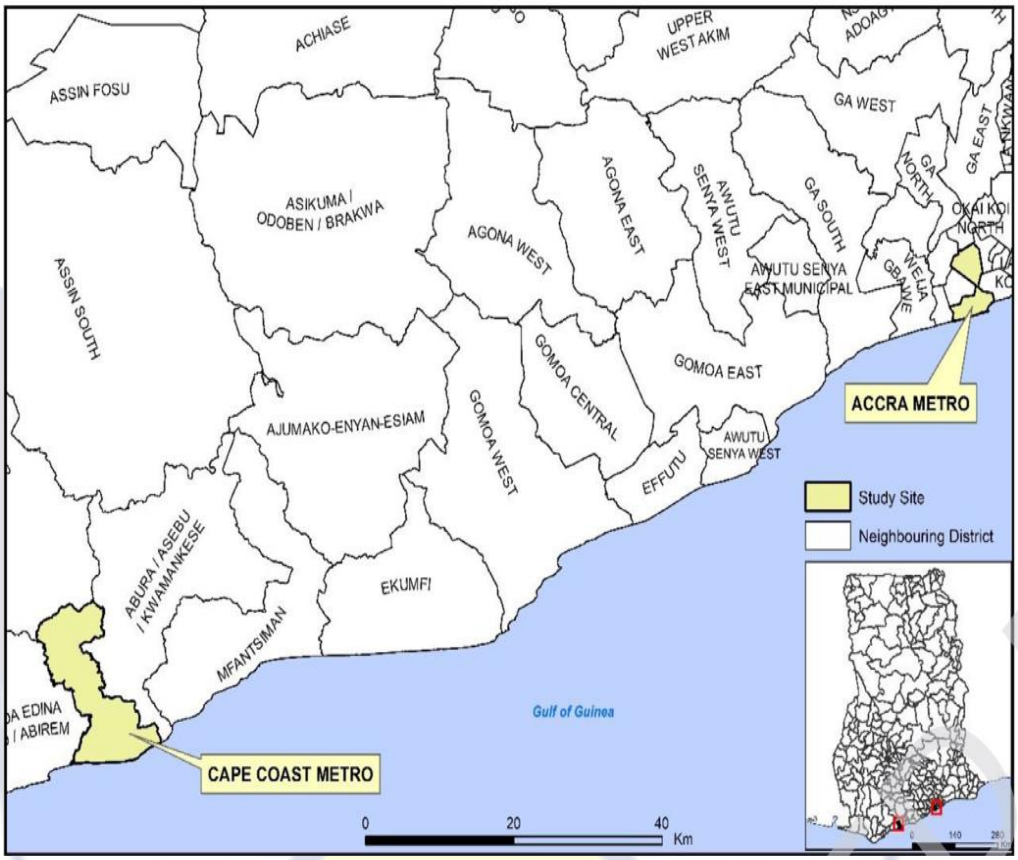

Figure 2: Geographical Map of the Study Area

Source: Field data (2023)

Population

Population represents the actual group of people from which the study obtains a sample. According to the Ghana Enterprise Agency (GEA) (2021), 721 companies in Ghana are classified as agro-food processors under the manufacturing subsector. The study's target population focused on such firms in three selected cities comprising Accra (288), Tema (162) and Cape Coast (79) which summed up to 509 firms. These cities combine to account for about 70% of the total food processing firms in Ghana; hence, serves as a hub for this subsector. The study selected a representative from firms which adopted the M&E practices (baseline study, M&E budget and M&E planning). Hence, the study targeted 509 owner-managers of food processing firms in the three selected cities in Ghana.

Sampling Procedure

Given the study's large target population size, a sizeable unit was sampled using the Adam (2020) sample size determination table (see Appendix B). The table revealed a minimum sample of 174 from the target population of 509 owner-managers at 95% confidence level, t-value of 1.96 and a margin of error of 0.03. Hence, the study gathered primary data from the 174 owner-managers in the target population. Given the scattered nature of the food processing firms coupled with the difficulties associated with accessing them, the study adopted the convenience sampling technique. Although this technique is used in most qualitative research due to its non-probability nature, its adoption in quantitative studies has attracted attention in recent times. This is because, the technique allows quantitative-based researchers to gather data from respondents who are available and accessible (Etikan, Musa & Alkaassim, 2016).

The convenience sampling method was used for the study in order to make it simpler to find a sufficient number of respondents (Etikan et al., 2016). This technique allows researchers to consider only respondents who are readily available and willing to voluntarily participate in the research activity, especially during data collection (Stratton, 2021). It specifically allows the researcher to select owner-managers of food processing firms in the selected cities who are available and willing to participate in the research. Hence, this sampling technique helped the researcher to gather information from only accessible owner-managers whose firms adopt the M&E practices. This sampling technique, therefore, helped the researcher to gather data from only firms that adopt M&E; hence, those that did not adopt them were excluded from the study.

Data Collection Instrument

The most appropriate instrument for collecting primary data in any quantitative research is questionnaire; hence, its adoption in this study. When using a questionnaire,

each respondent responds to the same questions in a predetermined or planned order (Creswell & Clark, 2017). The questionnaire allows researchers to convert information into numerals for onward processing and analysis via descriptive or inferential analysis (Sileyew, 2019). It also places lower cognitive loads on respondents by reducing the time required to think in order to complete a given task. It offers easier routes to gathering multiple responses, code and analyse them within a reasonable time frame. The questionnaire was designed for the study utilizing solely closed-end questions, which precluded respondents from contributing information that was unrelated to the goals of the study.

The study's questionnaire was self-developed after extensive reviews. Also, some of the items were adapted from related studies to measure the study's variables. The questionnaire was structured under three sections (A-C) where Section A measured the respondents' socio-demographic features; Section B contained items on the three M&E practices while Section C had items which measured organisational performance. Items in Sections B and C were put on a "five-point Likert-like scale, with 1 'weak agreement' and 5 'strong agreement". This interval scale was suitable because it allows researchers to convert information (words) into numbers to allow for data processing and analysis via descriptive and inferential tools notably mean scores and PLS-SEM.

Measurement of Constructs

This section presented the items or indicators that were used to measure the study's constructs. These items were adapted from previous studies; hence, the items' sources were also presented. The study's constructs comprised M&E practices such as baseline study, M&E planning and M&E budget as well as organisational performance.

Table 1: Measurement of Constructs

Construct	Indicators/Items	Source
Baseline study	Data collection, review of results, sharing baseline reports, defined objectives, design of BS	Webb and Elliot (2000), Estrella and Gaventa (2010)
M&E planning	Budget resource, feasibility, ethics, capacity, timeline, risk assessment	Armstrong and Baron (2013)
M&E budget	Budget preparation, provisions for activities, resource allocation, task execution, timeliness	Kissi et al. (2019)
Organisational performance	Quality, quantity, operational cost, environmental, revenue/ profit margin, efficiency of resource usage, timeliness	Jyoti and Rani (2017), Lim and Mohamed (1999)

Source: Field data (2023)

Validity and Reliability

Validity and reliability describe how well the study's instrument assesses the parameters it was designed to measure (Berkowitz, Caner & Fang, 2012; Creswell, 2017). Validity specifically explains the extent to which the study's questionnaire truly measures its research objectives (Heale & Twycross, 2015). It assesses whether the questionnaire accurately captures the study's constructs to attain valid responses to attain its research objectives. It assessed the questionnaire's validity (content and face) using extensive literature reviews, peer reviews and expert judgement. With expert judgment, for instance, the researcher's supervisor thoroughly reviewed and approved the drafted questionnaire before field work. The drafted instrument finally underwent pre-testing where any validity issue was addressed before developing the final draft.

Reliability, on the other hand, describes the precision or consistency of the study's measurement instrument (Creswell, 2014). Regarding the study, reliability was assessed to ensure that the questionnaire developed is consistent and reproducible when repeated under similar situations. The study assessed the reliability of the drafted questionnaire by conducting a pre-test using food processing firms located in the Sekondi-Takoradi metropolis. After obtaining a valid data set of 40, it underwent internal consistency reliability with the rule that each construct's Cronbach alpha (α) should be ≥ 0.70 (Sekaran & Bougie, 2016). Thus, the measurement items are deemed reliable if their assigned construct obtain α above 0.70. Table 2 presented the α of each construct.

Table 2: Reliability test

Construct	No. of Items	α Value
Baseline study	5	0.769
M&E planning	5	0.776
M&E budget	5	0.777
Organisational Performance	5	0.810

Source: Field data (2023)

Data Collection Procedure

After the questionnaire was developed and approved by the researcher's supervisor, it was sent to the field for data collection. During the field work, the researcher employed and equipped three field assistants. The assistants were employed to assist the researcher to gather adequate data within the required time. They specifically assisted the respondents who had genuine challenges in responding to any of the questions in the questionnaire. The assistants underwent training to ensure that they participated in the exercise with the highest level of professionalism and adherence to all the ethical requirements. The data collection is projected to last for two weeks

where the researcher and the field assistants would administer the questionnaires to only the available and easily accessible respondents. This approach was adopted to ensure quick access to rich and adequate data for further analysis.

Ethical Consideration

Ethics represent an important dimension of research to explain what is morally right or wrong in a given research activity (Alderson, 2020). In order to guarantee access to reliable and commonly regarded as acceptable results, it ensures that the rights of people or research participants involved are maintained. According to Patten (2017), "voluntary participation, right to privacy, anonymity, informed consent, data confidentiality and avoidance of plagiarism issues" are the ethical issues considered in any research. Every attempt was taken to ensure that all ethical issues were properly handled with regard to the study. For instance, all of the respondents were given the option to take part in the exercise voluntarily; as a result, none of them were required or pressured to engage in the study.

Also, the identities of every respondent who participated in the data collection exercise was kept as a secret to ensure anonymity. This was practically achieved by excluding the respondents' sensitive information such as personal and business names, digital addresses, locations and telephone numbers from their socio-demographic details. By keeping their information private, the responders were also given the assurance that the data was secure. The data obtained was used solely for academic purposes; hence, not exposed to any third party like GEA. The study also addressed the ethical issue of plagiarism by ensuring that all relevant information was properly paraphrased and appropriately referenced. The document would finally be subjected to plagiarism test using the Turnitin software with originality threshold of 81%.

Data Processing and Analysis

In order to ensure that any inaccuracies resulting from questionnaires that were not entirely filled out or poorly filled out were deleted from the primary data collected during the data collecting process, it was thoroughly screened. After the data cleaning exercise to address any missing value, the valid data was then carefully coded by assigning unique numbers to each completed questionnaire. Data that had been coded was processed using IBM SPSS (version 26) and SmartPLS software, and then it was analyzed with the aid of descriptive and inferential techniques. The socio-demographic characteristics of the respondents were specifically described using the descriptive tool, which included frequencies and percentages. The objectives were analysed with the partial least square-structural equation modelling (PLS-SEM) technique.

Partial Least Squares Structural Equation Modelling (PLS-SEM)

A multivariate analysis method with a track record for accurately estimating theoretically proven cause-and-effect relationship models is the PLS-SEM (Zeng et al., 2021). It permits model estimation without subjecting the data to arbitrary distribution assumptions. The PLS-SEM algorithm can deal with missing data and normality violations (Hair et al., 2017). Also, it offers rigorous analysis to produce superior outcomes as compared to the linear regression analytical tool (Hair et al., 2017). Prior to applying the PLS-SEM to test the study's hypotheses, a model was first specified and underwent measurement (reliability, validity) and structural (coefficient of determination, effect size) assessments (Hair et al., 2022). After meeting the quality criteria, the hypotheses were tested using 5000 bootstraps and the output was presented in figures and tables and discussed in Chapter four.

Measurement Model Evaluation

According to Purwanto and Sudargini (2021), the first stage in assessing PLS-SEM results requires the examination of the measurement model, and the criteria vary for formative and reflective constructs. According to Hair et al. (2018), the researcher needs to assess the structural model to see if the measurement model meets all the necessary criteria. The PLS-SEM also provides a general rule of thumb that serves as a framework for assessing model findings, similar to other statistical techniques (Roldan & SanchezFranco, 2012; Hair et al., 2019).

Exploratory Factor Analysis

When conducting a factor analysis, a large number of items (questionnaire responses) are broken down into smaller groupings, or factors, by looking at the intercorrelations between those items (Hooper, 2012). Exploratory factor analysis (EFA) is an interdependent technique that does not define formal assumptions, enabling the researcher to ascertain the underlying dimensions or factors that exist in a piece of data (Hooper, 2012; Levitt et al., 2018; Hair Jr. et al., 2020). The method is especially helpful for academic or managerial research since it may aggregate things into discrete dimensions that can then be utilized as input for additional multivariate analysis, like multiple regression (Levitt et al., 2018; Bougie & Sekaran, 2019).

Factor Loadings

In order to evaluate the reflective measurement model, it is necessary to look at the indicator loadings, according to Purwanto and Sudargini (2021). In order to give a reliable item of reliability, the threshold for item loadings above 0.708 is advised (Hair et al., 2019; Purwanto & Sudargini). This level of dependability indicates that the construction accounts for more than 50% of the variance of the indicator (2021).

Construct Reliability Measurement (Cronbach's Alpha, Rho, Composite Reliability)

Construct reliability measurement assesses a construct's consistency based on its indications (Hair et al., 2019). An indicator's loadings, which empirical research suggests should be more than 0.7, can be used to determine how reliable it is (Henselr et al., 2020; Hair Jr et al., 2020). Researchers assess the internal consistency reliability of constructions using composite reliability (CR) (Hair et al., 2019). In exploratory research, CR levels between 0.6 and 0.7 and between 0.7 and 0.9 are regarded as excellent (Hair et al., 2019). The most conservative criterion is Cronbach's, and the most liberal criterion is CR (Becker et al., 2018).

Construct Validity Measurement (Average Variance Extracted (AVE), HTMT, Cross loadings, Discriminant Validity)

Purwanto and Sudargini (2021) revealed the assessment of discriminant validity as the fourth step in assessing the reflective measurement model. Discriminant validity, according to Hair et al. (2019), demonstrates how construction experimentally differs from other notions in the structural model. Henseler et al. (2020) revealed the heterotrait-monotrait ratio of correlations (HTMT) as the threshold for measuring the discriminant validity after proving that Fornell and Larcker (1981)'s criterion did not perform well over time. The HTMT is a measure of similarities between latent variables (Henseler, 2017). Thus, Henseler et al (2017)'s threshold for the HTMT is < 90. When the HTMT score is high, or > 90, the authors noted that the discriminant validity is present, especially when the notions are conceptually distinct.

Convergent validity describes how well the conceptions converge to account for the variance of the items (Purwanto & Sudargini, 2021). The average variance extracted (AVE), according to the authors, is the metric used by researchers to judge the

convergent validity of each construct's item. To further validate their argument, Ramrez and Palos-Sánchez (2018) additionally took into account the Average Variance Extracted (AVE), which is the most typical metric for analyzing convergent validity in PLS-SEM. According to Hair et al. (2019), a construct must explain or account for at least 50% of the variation of the items for an AVE value of 0.50 or above to be considered valid

Assessment of Structural Model

The validity of the indicators (item loadings) used to measure each variable within the overall framework of the study are evaluated using the structure model (Hair et al., 2019). Analyzing the item loadings (indicators) of each construct allows one to evaluate the model's structural integrity. A loading of 0.70 or higher, according to Bivina et al. (2019), denotes a high-quality item or indicator. On the other hand, an indicator with a loading of less than 0.70 is not a reliable indicator of its construct and must be excluded from the model (Hair et al., 2019; Bivina et al., 2019).

R^2, f^2, Q^2, VIF, model fit (NFI, RMR, Chi-square, Saturated model, Unsaturated model, etc.) Path coefficients, Std. Dev, t, p-value

To ensure unbiased regression results, collinearity is checked before assessing the structure of the relationships, and to examine the collinearity, the variance inflation factors (VIF) is calculated (Purwanto & Sudargini, 2021). The induced collinearity in the effects is measured using VIFs (Craney & Surles, 2002). According to Purwanto and Sudargini (2021) an ideal VIF value should be close to three (3) and lesser (that is, VIF $\leq$ 3). VIF values above five (5) indicates that there is a possible collinearity problem among the predicting constructs (Purwanto & Sudargini (2021).

Rigdon (2012) and Hair et al. (2019) described the R^2 as the predictive power in the sample. Purwanto and Sudargini (2021) revealed that the R^2 ranges from zero to one (0-1) where higher values are regarded as having greater explanatory power in the sample. Values of 0.75, 0.50, and 0.25 denote or are regarded as substantial, moderate, and weak, respectively, according to Henseler et al. (2019). Researchers can evaluate how the deletion of some predictor constructs affects the f Square (f2) value of the endogenous constructs, according to Hair et al. (2019). Cohen (1988) established a general rule that values greater than 0.02, 0.15, and 0.35 correspond to modest, medium, and large effect sizes, respectively.

According to Creswell (2018), Hair et al. (2019), and Henseler et al. (2015), the coefficient of determination (R2) score is a measure of a model's prediction accuracy. Predictive relevance (Q2) based on the Stone-Giesser test, effect size (f), and the relative impact score of the model are additional important estimations (q2). Relationships between variables are determined using p-values and t-statistics (Hair et al., 2019). There is a significant link between the variables, according to Hair Jr et al. (2014) and Henseler et al. (2015), if the model's t-stats is >1.96 and p values is 0.05. The thresholds for the several measurement criteria are shown succinctly in the table for ease of reference.

Table 3: Thresholds for the various measurement criteria

Measurement criteria	Recommended	Reference
Indicator loading	≥ 0.708	Purwanto and Sudargini (2021)
Composite Reliability	≥ 0.60	Hair et al. (2014)
Average Variance Extracted	> 0.50	Hair et al. (2019)
rho_A	≥ 0.70	Dijkstra and Henseler (2015)
HTMT Ratio	< 0.90	Henseler et al. (2015)
Cronbach's Alpha	≥ 0.70	Henseler et al. (2015)
Variance Inflation Factors (VIF)	≤ 3.3	Purwanto and Sudargini (2021)

Source: Author's construct (2023)

Chapter Summary

The study's primary methodologies were provided in the chapter. The descriptive study design and the quantitative research approach were specifically covered. The IBM SPSS and SmartPLS tools were used to process the data once it was collected using the questionnaire. To properly address the research objectives, the processed data was analysed using PLS-SEM Tables with the results were shown, and there was a lot of discussion.

CHAPTER FOUR

RESULTS AND DISCUSSION

Introduction

The study analysed M&E practices and organisational performance of food processing firms in selected cities in Ghana. This chapter presented the study's results and associated discussion. The four research hypotheses of the study were extensively discussed in the chapter, which also specifically addressed the respondents' socio-demographic information.

Respondents Socio-Demographic Characteristics

This section presented the description of the respondents' socio-demographic characteristics. The study, during the data collection exercise, distributed 174 questionnaires to a representative of each of the 174 food processing firms in three selected cities in Ghana. After the data collection exercise, 162 of them were returned and underwent rigorous screening of which 157 of them were deemed valid or accurate for processing and analysis. In view of this, the study described the respondents' socio-demographic features based on the 157 valid responses (90.2% response rate) obtained. Precisely, the study described the respondents' features in terms of sex, age, highest level of education and number of years these firms have been operating. Table 4 presented the respondents' socio-demographic background.

Table 4: Respondents Socio-demographic Characteristics

Item	Frequency	Percent (%)
Sex		
Male	91	58.0
Female	66	42.0
Total	157	100.0
Age Group		
18-30	14	8.9
31-40	53	33.8
41-50	66	42.0
Over 50	24	15.3
Total	157	100.0
Level of Education		
No formal education	28	17.8
HND or lower	74	47.1
Degree (first, second, etc)	55	35.0
Total	157	100.0
Number of years worked		
Below 5 years	14	10.1
5– 10 years	39	24.8
11 – 15 years	68	43.3
16 – 20 years	36	22.9
Over 20 years	15	10.9
Total	157	100.0

Source: Field Survey (2023)

From Table 4, the respondents' sex was first described and it was revealed that, majority (58.0%) of them were males and 42% of them were females. This means that the key managerial positions of the food processing firms in the Accra, Tema and Cape Coast metropolises are dominated by males. Regarding age, 42% of the respondents were between the ages of 41 and 50 years; followed by 33.8% of them who were aged between 31 and 40 years; 15.3% of them were over 50 years of age while 8.9% of them

are below 5 years. This shows that all the respondents are of legal ages; thus, they have the right to participate in this study.

The respondents' highest level of education was also shown in Table 4, which showed that the majority (47.1%) of them have an HND or lower. 35 percent of the respondents, who have various degrees, including first, second (masters), and doctorate or terminal degrees, followed the outcome. Finally, most (43.3%) of the respondents have been operating 11-15 years, followed by 24.8% of them who have been in operation for 5 to 10 years, of these, 22.9 percent have been in business for 16 to 20 years, 10.9 percent have been in business for more than 20 years, and 10.1 percent have been in business for less than 5 years. The report indicates that majority (about 90%) of the businesses in the three selected cities have been in operation for more than 5 years; thus, their respondents have adequate experience regarding M&E practices.

Background Characteristics of the Food Processing Firms

This section presented the background features of the food processing firms understudy. Since the study was conducted at the firm level, it was appropriate to describe the firms that participated in the exercise. It specifically described these firms in terms of “firm age, firm size, firm location and ownership type” as shown in Table 5.

Table 5: Background Characteristics of the Food Processing Firms

	Frequency	Percentage
Firm Age (in years)		
Below 5	7	4.5
5– 10 years	28	17.8
11 – 15 years	48	30.6
Over 15	74	47.1
Total	157	100.0
Firm Size		
Small	13	8.3
Medium	96	61.1
Large	48	30.6
Total	157	100.0
Firm location		
Accra	57	36.3
Tema	71	45.2
Cape Coast	29	18.5
Total	157	100.0
Firm Ownership Type		
Domestic	71	45.2
Foreign	86	54.8
Total	157	100.0

Source: Field data (2023)

Table 5 revealed that most (47.1%) of the food processing firms that currently adopts the M&E practices have been operating for over 15 years; hence, are between this age range. This was followed by 30.6% of them which have been operating for 11-15 years, 17.8% of them are aged between 5 and 10 years while 4.5% of them have been operating for less than 5 years. Regarding firm size, 61.1% of them are medium-sized; hence, have between 30 and 99 employees according to the definition proposed by the National Board for Small Scale Industries (NBSSI). This was followed by 30.6%

of the food processing firms operating on large scales; hence, currently employ over 100 employees and finally. 8.3% of them are small-sized with less than 30 employees.

Considering the firms' location, most (45.2%) of the firms are currently located in Tema, a major industrial city in Ghana. This was followed by 36.3% of them operating in Accra and 18.5% of them operating in Cape Coast. Finally, the study described the firms' ownership type and it was revealed that most (54.8%) of them are foreign owned while 45.2% of them have domestic ownership. Hence, more domestic or Ghanaian businessmen are encouraged to establish food processing businesses in order to address this gap.

Monitoring and Evaluation Practices

PLS-SEM Output

This section presented and discussed the results of the study's objectives based on the PLS-SEM output. The PLS-SEM analytical tool is suitable for establishing causal relationships between the constructs, as is the case of the study. Prior to testing the study's hypotheses, the path model was first specified or developed and assessed. The assessment ensures that the model's items are quality; hence, it can produce objective outcomes suitable for generalisation purposes. The next section first specifies the path model.

Path Model Specification

Model specification is generally the first step in the PLS-SEM (Hair et al., 2017). It shows the constructs and their assigned items that were used to develop the model. It also ensures both measurement and structural assessments. The model had five latent variables where three of them represented the exogenous constructs comprising baseline study (BS), M&E planning (MEP) and M&E budgeting (MEB)

with five items each, organisational performance (OP) represented the endogenous construct with seven items while the study controlled for four items comprising firm age, firm size, firm location and firm ownership type. These firm level characteristics were controlled for to ensure that their presence do not affect the quality of the model's outcomes.

In the SmartPLS4.0, control variables are examined using the process analysis instead of the PLS-SEM or regression (Hair & Alamer, 2022). They recommended that the 5000 bootstrap should be used in the process analysis to test whether the control variables play significant roles in the path relationships or not. The control variables are, therefore, first assessed in the model before the actual hypotheses can be tested using the "PLS-SEM" analysis. In view of this, Figure 2 first presented the causal relationships and the control variables using the process analytical tool.

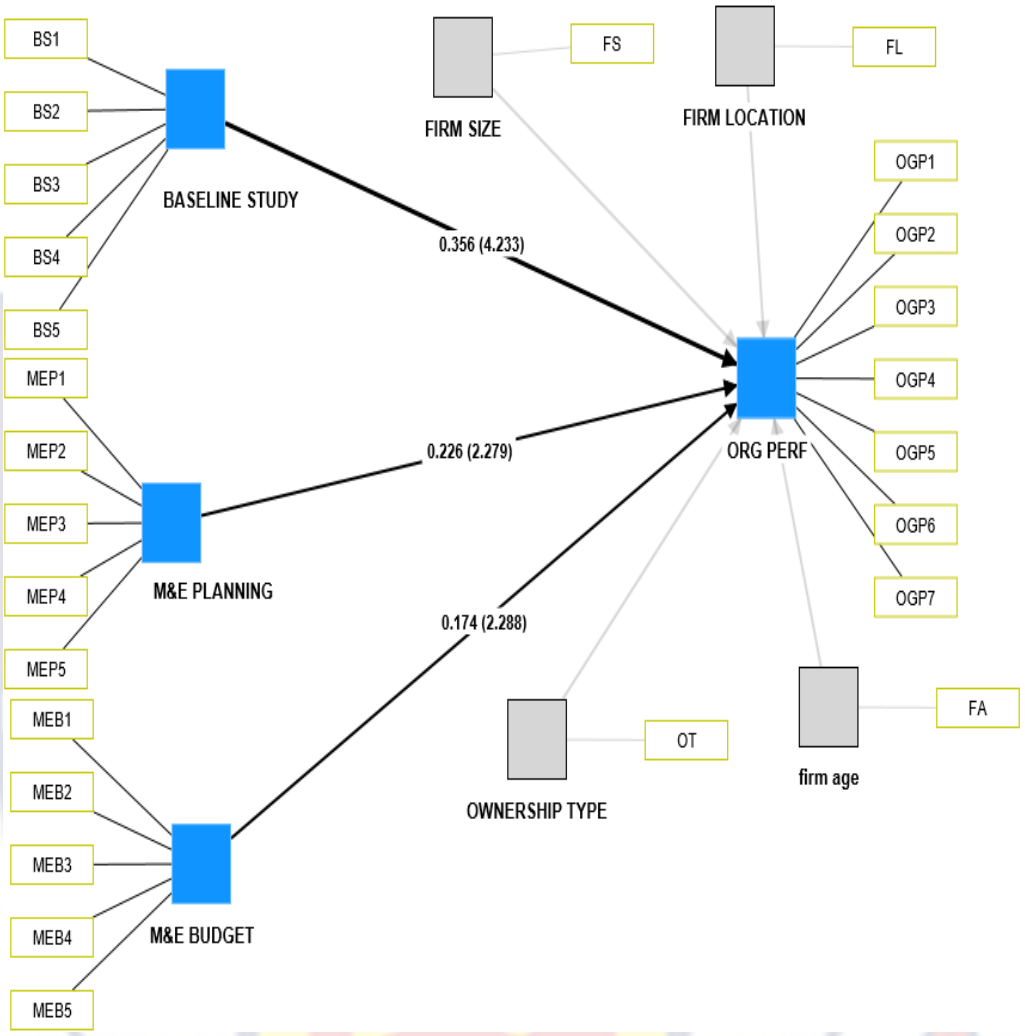

Figure 3: Process Analysis of the Control Variables

Source: Field data (2023)

From Figure 4, the exogenous constructs (baseline study, M&E planning, M&E budget) had five items each while the endogenous construct (organisational performance) had seven items. The control variables (firm age, firm location, firm size and ownership type) which were measured on categorical scales had one item each. The key latent variables had blue colours while the control variables had grey colours. Table 5 presented the results of the bootstrap in the process analysis. Table 6 first presented the results of the significant effects of the control variables (firm age, firm size, firm location and ownership type) in the model.

Table 6: Process Analysis of the Control Variables

	B-value	ST.DEV	T-stats	P values
Firm Location<- Org Perf	-0.051	0.093	0.549	0.583
Firm Size<- Org Perf	-0.036	0.317	0.317	0.751
Firm Age <- ORG PERF	0.025	0.410	0. .283	0.777
Ownership Type<- Org Perf	0.035	0.122	0.410	0.682

Source: Field data (2023)

From Table 6, all the control variables had no significant effect on organisational performance. This is because, the t-stats were less than the threshold of 1.96. For instance, firm location had a t-stat of 0.549, firm size had a t-stat of 0.317, firm age also had a t-stat of 0.283 and ownership type had a t-stat of 0.410. The results imply that the control variables do not significantly affect the relationships; hence, their presence neither improve nor weaken the relationships. The next sections focused on the direct relationships after the significance levels of the control variables were tested.

Table 7 presented the significant levels of the relationships based on the process analysis. It is to note that, the bootstrap output in the process analysis reports the significant levels of the control variables and the main constructs separately. It first indicates whether the control variables significantly affect the dependent variable and finally show whether the direct relationships are significant or not in the presence of the control variables. However, the process analysis does not provide an extensive assessment of the model as is the case in the PLS-SEM where the PLS algorithm is assessed.

Table 7: Process Analysis of the Path Relationships

	B-value	ST.DEV	T-stats	P values
Baseline Study -> Org Perf	0.356	0.084	4.233	0.000
M&E Budget -> Org Perf	0.174	0.076	2.288	0.022
M&E Planning -> Org Perf	0.226	0.099	2.279	0.023

Source: Field data (2023)

From Table 7, it can be seen that all the path relationships were statistically significant in the face of the control variables (firm age, firm size, firm location and ownership type). For instance, baseline study and org perf had a t-stat of 4.233 with B-value of 0.356 to indicate that when the construction firms adopt the baseline study and control their firm characteristics, their organisational performance levels would improve by 35.6% (medium). Also, M&E budget had a significant positive effect on org performance and its adoption improved the construction firms' performance levels by 17.4%. Finally, Table 7 revealed that M&E planning significantly improves organisational performance by 22.6% if the construction firms' characteristics in terms of firm age, firm size, firm location and ownership type are controlled for. Although the control variables did not significantly affect organisational performance, the exogenous variables did.

Path Model Specification in the PLS-SEM

Model specification is generally the first step in the PLS-SEM (Hair et al., 2017). It shows the constructs and their assigned items that were used to develop the model. It also ensures both measurement and structural assessments. The model had four latent variables where three of them represented the exogenous constructs comprising baseline study (BS), M&E planning (MEP) and M&E budgeting (MEB)

with five items each while organisational performance (OP) represented the endogenous construct had seven items. Figure 4 presented the path model before its assessment using the indicator reliability.

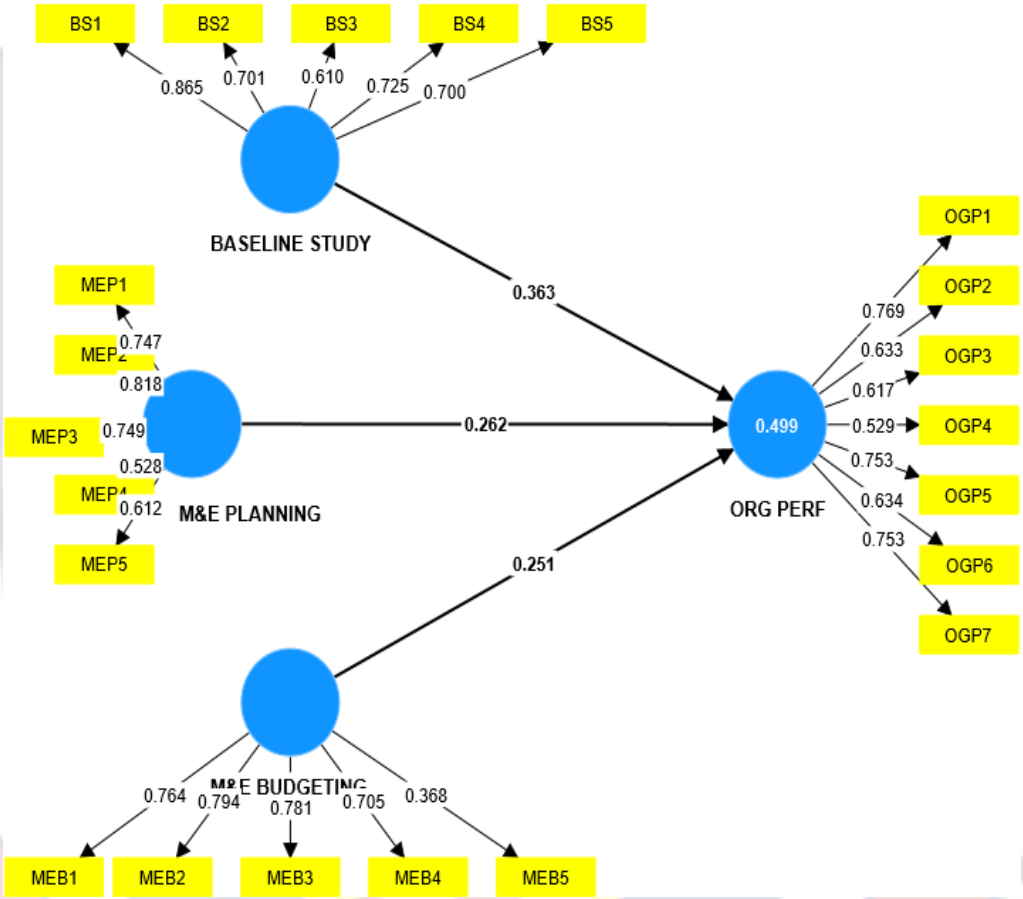

Figure 4: Raw Path Model

Source: Field data (2023)

From Figure 4, the baseline study (BS) comprised B1-B5, M&E planning (MEP) comprised MEP1-MEP5, M&E budgeting (MEB) had MEB1-MEB5 and organisational performance (OGP) contained OGP1- OGP7. The next section presented the measurement model assessment.

Measurement Model Assessment

After specifying the model in Figure 4, it underwent measurement model assessment in terms of reliability (indicator, construct) and validity (convergent, discriminant). The study's reflective measurement model was assessed based on the four step processes developed by Hair et al. (2021) which comprise: "assess the indicator reliability (Step 1), assess the internal consistency reliability (Step 2), assess the convergent validity (Step 3) and assess the discriminant validity (Step 4)". For instance, the indicator reliability was initially evaluated to determine the proportion of an indicator's variance that can be accounted for by its construct (Hair et al., 2021). The researchers suggested indicator loadings above 0.708 because they provide appropriate indication reliability by explaining more than 50% of the indicator's variance.

According to Hair, Hult, Ringle and Sarstedt (2022, p. 77), "Researchers should carefully explore the implications of indicator removal on other reliability and validity metrics rather than automatically removing indications when their loading is less than 0.70. In general, indicators with loadings between 0.40 and 0.708 should only be taken into account for elimination if doing so increases internal consistency reliability or convergent validity above the recommended threshold value. However, it is generally advisable to remove indicators with extremely low loadings (below 0.40) from the measurement model". Based on the ruling, Figure 5 presented the final model

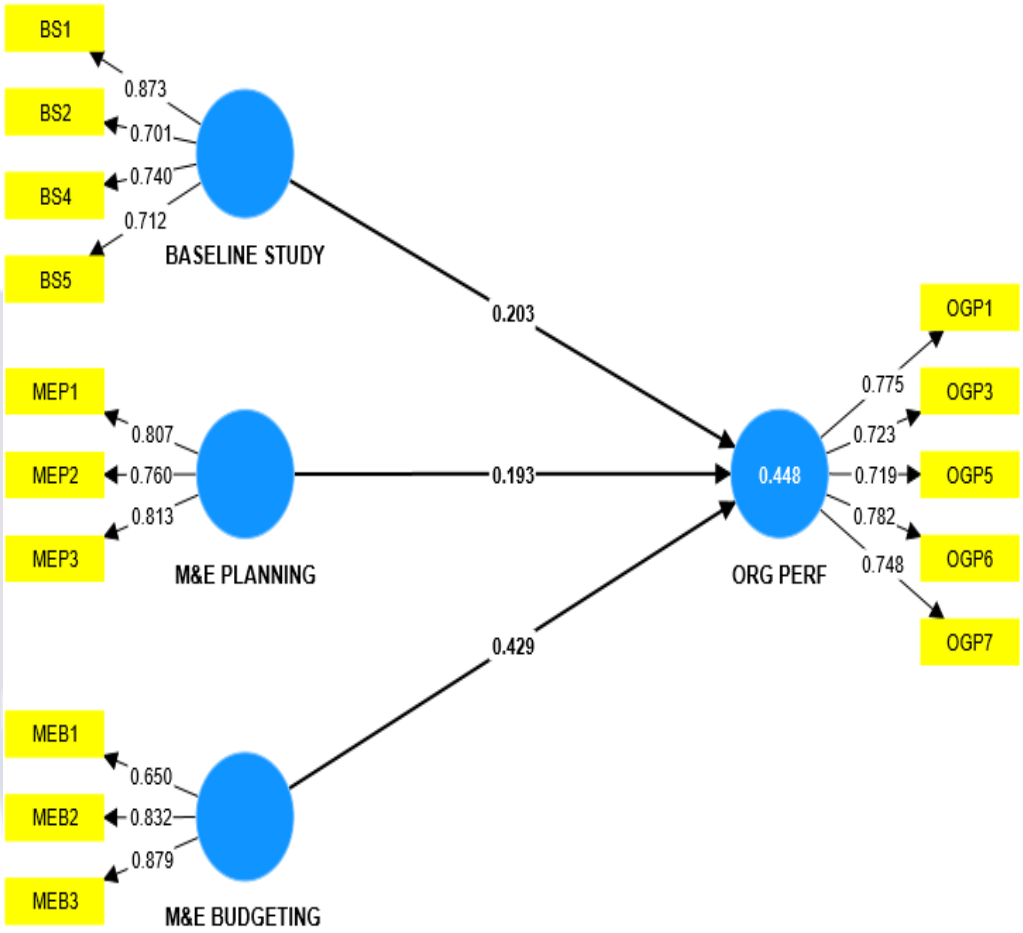

Figure 5: Final Model Structure

Source: Field data (2023)

Based on Hair et al. (2022) ruling, some items with loadings below 0.70 were first removed because their removal improved the model's overall quality in terms of internal consistency, reliability and construct validity. Precisely, BS3 (0.610), MEP4(0.528), MEP5(0.612), MEB5(0.368), OGP2(0.633) and OGP4(0.529) were removed. Although MEB4(0.705) was above 0.70, it was also removed because its presence affected the model's internal consistency, reliability and construct validity. Also, these items were removed because their inclusion caused the construct to exceed significant thresholds. Hence, Figure 5 contained the indicators that were deemed 'quality' or 'reliable' for the model. Therefore, the other assessments were based on the

final model. Table 8 presented the specific construct items and their loadings in the model.

Table 8: Specific Construct Items and Loadings

Item	Baseline Study	M&E Budgeting	M&E Planning	Org Perf
BS1	0.873			
BS2	0.701			
BS4	0.740			
BS5	0.712			
MEB1		0.650		
MEB2		0.832		
MEB3		0.879		
MEP1			0.807	
MEP2			0.760	
MEP3			0.813	
OGP1				0.775
OGP3				0.723
OGP5				0.719
OGP6				0.782
OGP7				0.748

Source: Field data (2023)

It can be seen that each construct's items met the indicator reliability thresholds. Although MEB1 under M&E budgeting was below the threshold of 0.708, it was still maintained in the model because it fell between 00.40 and 0.70 and also improved the internal consistency reliability.

Construct Reliability and Validity Assessments

The path model was tested for construct reliability (CR) using internal consistency reliability (rho A), construct validity (average variance extracted [AVE]), and discriminant validity once the model's initial quality requirement was specified. Table 8 presented the model output for rho_A and AVE.

Table 9: Assessment of Reliability, Validity

Items	rho_A	CV (AVE)
BS	0.769	0.577
MEB	0.793	0.629
MEP	0.744	0.630
OGP	0.818	0.562

Construct reliability (IR) – rho_A; construct validity (CV) - AVE scores

Source: Field data (2023)

Table 8 first presented the model's CR by reporting the rho_A scores. The construct reliability (CR) or internal consistency reliability describes how well the indicators measure their assigned latent constructs (Hair et al., 2017; Wong, 2019). CR helps in determining the quality and trustworthiness of the measurement model. It is assessed by reporting either the Cronbach Alpha, rho_a or rho_c; however, the rho_a was reported because it lies in-between the others to provide a better reliability outcome (Hair et al., 2017). The rule suggests that rho_a values should be ≥ 0.70 and from Table 8, all the constructs were > 0.70 (i.e., 0.744[MEP]-0.818[OGP]). This indicates that the measurement model is quality and its outcome can be relied upon.

Additionally, the model's construct validity (CV), which reflects how well and precisely a measurement tool measures the construct it is supposed to measure, was evaluated using the AVEs in the third stage (Hair et al., 2021). It demonstrates whether the measurement is consistent with the instrument's claims. The average variance extracted (AVE) for all the indicators for each construct serves as the criterion for determining convergent validity. The rule suggests that a construct's AVE should be ≥ 0.50 (Hair et al., 2022) and from Table 8, all the constructs' AVEs were > 0.50 (i.e., between 0.562 [OGP] and 0.629 [MEB]). This demonstrates that the model's CV was

satisfied, indicating that the measuring device measures the target quantity with accuracy.

Discriminant Validity

The measurement model was finally tested for discriminant validity (DV) to check whether the measurement instrument can effectively distinguish different theoretical constructs (Hair et al., 2022). It ensures that the instrument can truly measure specific construct without significant overlap with other related constructs Wong (2019). DV is assessed using either the Fornell and Larcker criterion (FL), cross loadings or Heterotrait-Monotrait (HTMT) ratio) in a PLS-SEM model. Tables 10, 11 and 12 presented the FL criterion, cross loadings and the HTMT ratio respectively.

Table 10: Fornell-Larcker Criterion

	Baseline Study	M&E Budgeting	M&E Planning	Org Perf
Baseline Study	0.759			
M&E Budgeting	0.445	0.793		
M&E Planning	0.489	0.417	0.794	
Org Perf	0.489	0.600	0.471	0.750

Source: Field data (2023)

As a result, the measurement instrument effectively measures what it is intended to measure, demonstrating that the model's CV was fulfilled. They also suggested that all other reflectively measured constructs should not be more than their AVEs. From Table 10, all the other reflectively measured constructs are not more than their AVEs. For instance, the AVE (0.445) for the relationship between M&E budgeting and baseline study is not larger than the AVE (0.793) for the relationship between M&E budgeting and M&E budgeting. This is same for all the other AVEs in the path relationships. But according to Henseler, Ringle, and Sarstedt (2015), the FL often fails,

particularly when a construct's indicator loadings vary just slightly. According to Radomir and Moisescu (2019), the FL criteria frequently fails to accurately identify DV issues.

Table 11 presented the cross loading of the items for each construct. The cross loadings have also traditionally been used to check for possible discriminant validity issues in a model.

Table 11: Cross Loadings

	Baseline Study	M&E Budgeting	M&E Planning	Org Perf
BS1	**0.873**	0.441	0.467	0.409
BS2	**0.701**	0.421	0.357	0.297
BS4	**0.740**	0.306	0.320	0.308
BS5	**0.712**	0.209	0.330	0.434
MEB1	0.403	**0.650**	0.363	0.290
MEB2	0.401	**0.832**	0.344	0.458
MEB3	0.314	**0.879**	0.325	0.606
MEP1	0.352	0.331	**0.807**	0.376
MEP2	0.193	0.361	**0.760**	0.235
MEP3	0.526	0.321	**0.813**	0.451
OGP1	0.314	0.366	0.243	**0.775**
OGP3	0.269	0.418	0.354	**0.723**
OGP5	0.383	0.331	0.350	**0.719**
OGP6	0.343	0.645	0.332	**0.782**
OGP7	0.501	0.416	0.462	**0.748**

Source: Field data (2023)

The cross loading was reported to show whether the items assigned for a particular construct truly measures it. From Table 11, all the items assigned to each construct loaded well on that construct to indicate that they are quality and true

measures of their assigned constructs. For instance, the baseline study's items measured the construct better than the other construct. In the same way, the M&E planning's items also measured the construct better than the items of the other constructs. The result, therefore, shows that the model's items are discriminantly valid. Finally, the HTMT ratio was presented in Table 12.

Table 12: HTMT Ratio

	Baseline Study	M&E Budget	M&E Planning	Org Perf
Baseline Study				
M&E Budget	0.647			
M&E Planning	0.603	0.603		
Organisational Perf	0.606	0.723	0.569	

Source: Field data (2023)

The HTMT ratio provides superior output due to its strength in easily detecting absence of DV in basic research. It is, therefore, considered as a better alternative (Henseler et al., 2015). Because discriminant validity problems arise when the HTMT values are large, Henseler et al. recommended a threshold of 0.90 for structural models containing related constructs. An HTMT value greater than 0.90 in such circumstances would suggest issues with discriminant validity. From Table 12, all the inter-correlations showed absence of discriminant validity problems because each path relationship had HTMT ratios below the threshold value of 0.90. For instance, the relationship between M&E budget and baseline study had HTMT value of 0.647. The relationship with the highest HTMT ratio was in the relationship between organisational performance and M&E budget with value of 0.723.

Assessment of Structural Model

This section assessed the study's structural model to explore the association or interactions among constructs in order to test hypotheses (Hair et al., 2017). It is assessed to understand the complex correlations between latent constructs by reporting the coefficient of determination (R^2) score, effect size (f^2), multicollinearity using VIFs and the significance of path coefficients. Table 13 presented the R square (R^2), VIF and f^2 of the model.

Table 13: Coefficient of Determination and Effect Size

Construct	R^2	VIF values	f^2
BS		1.449	0.052
MEB		1.334	0.250
MEP		1.406	0.048
OGP	0.448		

Note: Coefficient of determination(R^2), effect size(f^2)

Source: Field data (2023)

The R^2 value was first reported to show the combined contributions of the exogenous constructs (BS, MEP, MEB) on the endogenous construct (OGP) (Hair et al., 2021). It also suggests the variation in OGP that is linearly accounted for by combining the M&E practices. Wetzels et al. (2009) suggested that R^2 values < 0.29, 0.29 - 0.67 and > 0.67 signify weak, moderate and strong contributions. From Table 8, the R^2 was 0.448 to indicate that the adopting the three practices combine to linearly account for 44.8% of any variation in OGP. Therefore, for any change in the OGP of the food processing firms, about 44.8% of it is moderately accounted for by adopting M&E practices comprising BS, MEP and MEB.

The measurement model was also assessed for possible multicollinearity, using the VIFs, to ensure that the path coefficients are free from bias. Multicollinearity

indicates that two or more exogenous constructs are strongly correlated with each other; hence, is a major concern (Hair et al., 2017). Its presence can complicate the interpretation of the model's outcomes because distinguishing the unique effect of each construct when they are highly correlated can be challenging and lead to ambiguities when discussing the relationships. The rule suggests that VIF should be < 3.3 (Hair et al., 2019, 2022) and the result in Table 12 showed absence of multicollinearity. This is because, the VIFs were BS (1.449), MEB(1.334) and MEP(1.406); suggesting that the relationships are not correlated.

Table 8 also reported the f^2 of each exogenous construct by adopting Cohen et al. (2002) impact criterion. They suggested that values of 0.02 (small), 0.15 (medium) and 0.35 (large) respectively. From Table 8, MEP had the lowest f^2 value of 0.048, followed by BS (0.052) while MEB had the highest f^2 of 0.250. Based on the criterion, MEP and BS had small f^2 (i.e., $f^2 > 0.15$) while MEB had a moderate f^2. The results suggest that when these M&E practices are adopted, MEB would have the highest effect on OGP as compared to BS and MEP.

Significance of Path Coefficients

This section presented the significance of the path coefficients under the structural model. Hair et al. (2017, 2019) suggested that the significance of the path coefficients is only discussed if the model passes the measurement and structural model assessments; hence, considered "accurate" or "quality". This section reveals whether the hypothesised relationships are statistically significant or not. It also reported the strength and direction of each relationship using 5000 bootstraps as proposed by Hair et al. (2017). The rule suggests that the relationship is significant if the t-stat is ≥ 1.96 (p-value ≤ 0.050) (Hair & Amper, 2022; Hair et al., 2021; Wong, 2019). Table 14

presented the results using five columns comprising structural paths, path coefficients (β), t-stats, p-values and decision rule of each hypothesis.

Table 14: Significance of the Path Coefficients and Decision Rule

	Coefficients(B)	St.Dev	T-Stats	P Values
Baseline Study -> Org Perf	0.203	0.090	2.269	0.023
M&E Planning -> Org Perf	0.193	0.086	2.239	0.025
M&E Budgeting -> Org Perf	0.429	0.085	5.038	0.000

Source: Field data (2023)

From Table 10, all the three hypothesised relationships were significant because their t-stats were > 1.96 ($p<0.050$). Precisely, the relationship between (a) BS and OGP (H1) was significant with t-stat of 2.269; (b) MEP and OGP (H2) was 2.239 and (c) MEB and OGP (H3) was 5.038. Given the results, all the hypotheses were supported to indicate that the M&E practices individually have significant effects on OGP. Also, the β-values were positive to indicate that the M&E practices have significant positive effects on the firms' performance. This suggests that when the M&E practices comprising BS, MEP and MEB are adopted, they improve OGP. In terms of strength, BS and MEP had weak significant effects with β-values of 0.203 and 0.193 respectively while MEB had a moderate effect with β of 0.429. The next section presents extensive discussion of the study's results.

Discussion of the Results

The section discussed the results of the study in line with the research objectives/hypotheses. The hypotheses were tested after the study first developed a model and assessed it. The results were presented in the earlier section and the ensuing presented the discussion aspect.

Effect of Baseline study on Organisational Performance

Regarding objective two, the study hypothesised (H_1) that baseline study (BS) has a significant positive effect on organisational performance (OGP). The result revealed that the hypothesis is "supported" to indicate that adopting BS has a significant positive but weak effect on OGP of the food processing firms. This result implies that when food processing firms in the selected cities in Ghana adopt BS during M&E, it would expand their performance levels. The practical implication is that when food processing firms in Ghana collect basic information on its key activities before accomplishing them, it would improve the quality of products they produce.

Also, when food processing firms set the benchmark against which future progress and outcome can be assessed, it guides their activities in order to yield positive outcomes. The result further implies that the firms' understudy can improve their overall performance if they define their objectives and performance indicators, develop relevant data collection tools, process and analyse the data obtained and utilise the findings. BS is crucial because it is generally the first practice during M&E; thus, its proper implementation can provide a strong foundation for the other factors and thereby, it is unsurprising that it had the highest effect on OGP.

The study's result is buttressed by the stakeholder theory which argues that M&E practices play crucial roles in improving OGP because they ensure that organisations' activities are constantly tracked and assessed to ensure continuous improvement. For instance, adopting BS ensures that the expectations of key stakeholders are first identified through data collection and assessed before any activity is carried out. This preliminary exercise helps the food processing firms to understand their stakeholders' expectations and explore appropriate measures to address them. The study is also buttressed by Kissi et al. (2019) who found the BS adoption to improve

the critical success factors of projects in Ghana's construction industry. Ngochi et al. (2020) also concluded that BS adoption improves the project performance of selected constituency development fund projects in Kenya.

Effect of M&E Planning on the Performance of Food Processing Firms

The study also tested whether MEP has a significant positive effect on the OGP of the food processing firms (i.e., H_2). The hypothesis was supported to indicate that any one-unit increment in the adoption of MEP would lead to 0.193-unit increment in these firms' performance. Although, MEP had a weak effect on OGP, the result also indicates that food processing firms that adopt this M&E practice can improve their performance levels by 18.4%. Based on the β-value, MEP was ranked "3rd" to show that it has the lowest effect on OGP when all the three practices are adopted. Practically, when the food processing firms make comprehensive plans to minimise operating costs, provide clear timelines for completing business activities as well as develop a risk assessment and mitigation plan, it would improve their performance levels. Similarly, when the firms ensure that their corporate plans cover the feasibility, nature and capacity of their activities, it can yield favourable performance outcomes.

The study's result is corroborated by Kissi et al. (2019) who found M&E planning to positively affect Ghana's construction projects' critical success factors such as project scope, relationship with project stakeholder, project quality performance and project schedule performance. Ofuori (2021) also concluded that project planning is needed if Briquettes industries in Ghana intend to improve profitability levels. Hubert and Mulyungi (2018) also found M&E planning to positively affect the project performance of non-governmental organisations in Rwanda. They concluded that these organisations are likely to improve their project performance levels if they ensure M&E planning. Njeru and Kirui (2022) similarly concluded that adopting M&E planning can

expand the performance of road construction projects of the National Airways in Kenya.

Effect of M&E Budget on the Performance of Food Processing Firms

This section discussed the study's objective four with the hypothesis (H_3) that MEB has a significant positive effect on OGP of the food processing firms. The result supports H3 to indicate that MEB plays a significant positive but moderate role in contributing to the firms' performance. It specifically shows that for anyone-unit improvement in MEP, OGP also improves significantly by 0.466. In terms of ranking, MEB was ranked "1st" to imply that it predicts OGP better than BS and MEP. Simply put, when the food processing firms continue to improve upon its MEB, they would experience about 46.6% increment in their performance levels. Practically, adopting MEB would help these firms to work effectively and meet expected timelines. Working within set budgets also helps food processing firms to employ cost cutting measures to control their expenditure or cash outflows.

The study's result is buttressed by the diffusion of innovations theory as well the stakeholder theory. The diffusion of innovations theory, for instance, argues that organisations need to adopt and properly spread initiatives like MEB in order to attract more investors, gain customers' trust and thereby, attain better performance. Kissi et al. (2019) similarly indicated that MEB positively affects the cost performance of projects undertaken by construction Ghanaian' firms. They concluded that when these firms adopt MEB, it can minimise project costs and overall operating costs. Similarly, Hubert and Mulyungi (2018) concluded that NGOs that implement MEB tends to perform positively. Njeru and Kirui (2022) also discovered that adopting MEB can improve the performance of road construction projects of the National Airways in

Kenya. The study's finding is buttressed by Estrella and Gaventa (2010) and Webb and Elliot (2000).

Chapter Summary

The chapter focused on the results and discussion of the study's four objectives. It first presented a description of the respondents' socio-demographic characteristics and followed with the discussion of research objective one via the mean and standard deviation analytical tool. The multiple regression analytical tool was finally employed to discuss research objectives two to four. The study's findings were linked with two theories (i.e., stakeholder theory and diffusion of innovations theory) and literature.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

The chapter presented the study's summary of key findings, conclusions drawn as well as relevant recommendations regarding the adoption of M&E practices and organisational performance.

Summary

The study investigated the effects of the adoption of M&E practices on the performance of food processing firms in some selected cities in Ghana. Given the study's purpose, four research objectives were developed to: (a) examine the effect of baseline study on organisational performance (b) examine the effect of M&E planning on organisational performance and (c) analyse the effect of M&E budget on organisational performance. The study was underpinned by the stakeholder theory and the diffusion of innovations theory. It employed the quantitative approach and explanatory design which allowed the collection of primary data of 157 via structured questionnaires from management of food processing firms in Accra, Tema and Cape Coast that adopt the M&E practices. The data was analysed via the PLS-SEM. The results were extensively discussed in Chapter four and below are the key findings:

With reference to objective one, the study analysed the effect of baseline study on the performance of food processing firms in Ghana. It was revealed that baseline study has a significant positive but weak effect these firms' performance. The implication is that firms that adopt the baseline study are likely to improve their performance levels. Thus, this M&E practice is a positive predictor of the performance of the firms' understudy.

The study's objective two analysed the effect of M&E planning on the performance of food processing firms in Ghana. The outcome showed that M&E planning has a significant positive but weak influence on the performance of these firms. This implies that whenever such firms properly plan towards M&E, it helps to improve their performance levels significantly. Hence, M&E planning predicts any increment in food processing firms' performance in Ghana.

Finally, the study showed that M&E budget has a positive and moderate influence on the performance of food processing firms in Ghana. The result implies that when these firms develop a proper budget for their activities, it would improve their performance levels significantly. Hence, the study found that any unit increment in M&E budget would lead to a unit increment in the performance of the food processing firms in Ghana.

Conclusions

The following conclusions were drawn based on the study's summary:

Concerning objective one, the study revealed that baseline study shows a significant positive effect on performance of food processing firms in Ghana. This outcome was largely buttressed by previous literature which suggested that organisations that adopt the baseline study tend to perform well. They explained that this practice provides the grounds for implementing the other practices; thus, a crucial M&E practice as far as organisational performance is concerned. The study concluded that baseline study is a weak predictor of the food processing firms' performance in Ghana.

The study also revealed that M&E planning (MEP) ensures that food processing firms in Ghana improves their performance levels. This is supported by the stakeholder

theory and diffusion of innovations theory. Previous studies have similarly noted that organisations that adopt and ensure proper MEP can achieve favourable performance. Hence, the study concluded that MEP positively predicts the performance of the Ghanaian food processing firms.

The study finally noted that M&E budget has a significant positive and moderate influence on the performance of food processing firms in Ghana. The outcome was buttressed by previous studies which revealed that M&E budget provides firms with the needed funds (i.e., cash inflows) to carry out various activities including M&E in an organisation. It also provides the financial framework within which such organisations conduct their activities over a particular period. In this regard, the study concluded that M&E budget is a key predictor of the performance of food processing firms in Ghana.

Generally, the study concluded that there are various M&E practices adopted by the food processing firms and notable among them include M&E budget, baseline study and M&E planning. The study also concluded that these major or highly adopted M&E practices significantly and positively predicted any change in the organisational performance of the food processing firms in Ghana. Thus, adoption of M&E practices is key to improving these firms' performance.

Recommendations

Given the conclusions, the following recommendations were made:

Regarding research objective one, the study recommended that management of the food processing firms in Ghana should continue to adopt and invest in the baseline study in order to attain positive performance outcomes. This can be achieved when these firms collect, process and analyse basic information on their actions or activities

before executing them. Also, these firms must define their objectives and performance indicators to direct their entire activities in order to achieve expected outcomes.

The study also recommended that management of the food processing firms should ensure effective M&E planning to guide their entire activities. This can be achieved when the firms develop a comprehensive M&E plan and strictly comply with it. They must ensure that the M&E plan is in line with their overall corporate plan and they are regularly reviewed in order to meet changing situations and expectations. These measures would help improve upon the overall performance of the food processing firms.

Regarding research objective three, the study recommended that management of the food processing firms should develop a comprehensive budget to guide their operations. The budget must allocate adequate funds to cover all the necessary activities within a specified period. Management must also ensure that their staff strictly comply with the financial allocations in the budget in order to minimise overall operating costs and thereby achieve a sound performance outcome.

Suggestions for Further Research

Although the study made significant contributions to M&E adoption within the context of food processing firms in Ghana, it was still exposed to some limitations. For instance, the study focused on food processing firms which adopt M&E practices and currently operates in three major cities (Accra, Tema and Cape Coast) in Ghana; thus, future research should expand its scope by including such firms located in other cities in Ghana. Also, the study concentrated on the three most adopted M&E practices (baseline study, M&E planning, M&E budget); thus, future researchers should include other practices such as M&E framework, M&E scheduling and the role of external

evaluators. Other researchers should consider other classes of firms in the manufacturing industry to assess whether same or different outcomes would be obtained.

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APPENDICES

APPENDIX A

QUESTIONNAIRE

Dear Respondent,

I am conducting research on "**Factors influencing the adoption of monitoring and evaluation practices of food processing firms in selected cities in Ghana".** Your participation is essential to the success of this study. You are hereby assured that your information will be held with the strictest confidence and will only be used for academic purposes only.

Please respond as you deem fit with a tick [√].

Section A:
Respondents' Demographic Characteristics

1. Sex: Male [ ] Female [ ]
2. Age:
   18-30 years [ ] 31-40 years [ ]
   41-50 years [ ] Above 50 [ ]
3. Highest Level of Education:
   No formal education [ ] Higher National Diploma or lower [ ]
   Degree (First, second, terminal, etc) [ ] How long has your business been in operation (in years)?
   Below 5 [ ] 5-10 [ ] 11 -15 [ ] Over 15 years [ ]

Firm Level Characteristics

1. What is the age of your firm (in years)?
   Less than 5 [ ] 5-10 [ ] 11-15 [ ] over 15 [ ]
2. Indicate the size of your firm
   Small [ ] Medium [ ] Large [ ]
3. Where is your firm currently located?
   Accra [ ] Tema [ ] Cape Coast [ ]
4. Indicate your type of ownership
   Domestic [ ] Foreign [ ]

Section B: M&E Practices adopted by the food processing firms

For each of the following statements, please tick the response that best represents the degree to which you agree with that statement. **The options available range from 1 to 5; where 1= Weak Agreement, and 5= Strong Agreement.**

	M&E Practices	**1**	**2**	**3**	**4**	**5**
AMEP1	My firm documents lessons learnt during M&E					
AMEP2	My firm considers the role of external evaluators during M&E					
AMEP3	My firm specifies its M&E and frequency of ICT usage					
AMEP4	My firm adopts the baseline study during M&E					
AMEP5	My firm engages in M&E planning					
AMEP6	My firm has budget for its M&E activities					
AMEP7	My firm conducts its M&E activities within an M&E framework					
AMEP8	My firm adopts M&E scheduling					

Section C: Monitoring and Evaluation Practices

For each of the following statements, please tick the response that best represents the degree to which you agree with that statement. **The options available range from 1 to 5; where 1= Weak Agreement, and 5= Strong Agreement.**

	Item	**1**	**2**	**3**	**4**	**5**
Baseline Study (BS)						
BS1	The firm collects basic information on its key activities before actual execution					
BS2	The firm analyses the data collected and reviews the results					
BS3	The firm defines the objectives and performance indicators to guide the M&E processes					
BS4	The firm formulates reports and share them with its key partners					
BS5	The firm designs its baseline study in line with the deigned plan					
M&E Planning (MEP)						
MEP1	The firm makes comprehensive plans on its operating costs					
MEP2	The firm's plan covers the feasibility of its activities					
MEP3	The firm includes timelines for completion its operations into the plan					
MEP4	The firm has a risk assessment and mitigation plan for its activities					

MEP5	The firm includes the nature and capacity of its operations into the M&E plan					
M&E Budget (MEB)						
MEB1	The firm always prepare a budget for its activities					
MEB2	The firm makes adequate provisions in the budget to cover its operational costs					
MEB3	The firm prepares its budgets on time					
MEB4	The firm allocates adequate resources for its operations					
MEB5	The firm executes tasks within the costs allocated in the budget					

Section D: Organisational Performance

For each of the following statements, please indicate the response that best expresses the extent to which you agree with that statement. **The ratings range from 1 to 5; where 1= Weak agreement, and 5= Strong Agreement.**

	Item	**1**	**2**	**3**	**4**	**5**
OGP1	The firm provides quality products and/or services to its customers or clients					
OGP2	The firm's overall operating costs have reduced overtime					
OGP3	The firm's revenues or profit margins have increased over the years					
OGP4	The firm provides environmentally-friendly products and/or services to customers					
OGP5	The firm utilises available resources effectively and efficiently					
OGP6	The firm meets the quantity of products required by its customers					
OGP7	The firm delivers products and/or services to customers on time					

THANK YOU

APPENDIX B

Table for Determining Minimum Returned Sample Size for a Given Population Size for Continuous and Categorical Data by Adam (2020)

Population Size	Sample Size					
	Categorical data (margin of error=.05), ρ=2			Continuous data (margin of error=.03), ρ=4		
	90% confidence Level $t = 1.645$	95% confidence Level $t = 1.96$	99% confidence Level $t = 2.58$	90% confidence Level $t = 1.645$	95% confidence Level $t = 1.96$	99% confidence Level $t = 2.58$
10	10	10	10	10	10	10
15	15	15	15	14	15	15
20	19	20	20	19	19	20
25	23	24	25	23	23	24
30	28	28	29	26	27	29
35	31	33	34	30	31	33
40	35	37	38	33	35	37
50	43	45	47	40	43	46
60	50	52	56	46	49	54
70	56	60	64	52	56	61
80	62	67	72	57	62	69
90	68	73	80	61	68	76
100	74	80	87	66	73	83
110	79	86	95	70	78	89
120	84	92	102	74	83	96
130	88	98	109	77	88	102
140	93	103	116	81	92	108
150	97	108	123	84	97	114
160	101	113	129	87	101	119
170	105	118	136	90	104	125
180	109	123	142	92	108	130
190	112	128	148	95	111	135
200	116	132	154	97	115	140
220	122	140	166	102	121	150
250	130	152	182	108	130	163
300	143	169	207	116	142	182
350	153	184	230	123	152	200
400	162	196	250	128	161	215
450	169	208	269	133	168	229
500	176	218	286	137	174	241
600	187	235	316	144	185	262
700	196	249	342	149	194	279
800	203	260	364	153	201	293

900	209	270	383	156	206	306
1000	213	278	400	159	211	317
1200	221	292	429	163	219	334
1500	230	306	462	167	227	354
2000	239	323	500	172	236	376
3000	249	341	545	177	245	401
5000	257	357	588	182	254	424
8000	262	367	615	184	259	437
10000	264	370	625	185	260	442
20000	267	377	645	187	264	452
50000	270	382	657	188	266	459
100000	270	383	662	188	267	461
150000	271	384	663	188	267	461
200000	271	384	664	188	267	462
>1000000	271	385	666	188	267	463