UNIVERSITY OF GHANA

THE IMPACT OF GREEN MARKETING ORIENTATION DIMENSIONS: A MEDIATION AND MODERATION ANALYSIS OF THE BEVERAGE INDUSTRY IN GHANA

BY

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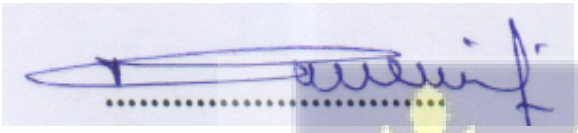
DECLARATION

I do hereby declare that this Ph.D. thesis is the product of my research undertaken under supervision. The thesis has not been presented to academic institutions in this or any other form for any academic award. All references in the work have been duly acknowledged. I take full responsibility for any short comings in this document.



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CERTIFICATION

I hereby certify that this thesis was supervised in accordance with the regulations of the University of Ghana.

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DEDICATION

I dedicate this thesis to GOD in whom I trust for his endearing guidance throughout this journey. Next, I dedicate this to my parents, wife, siblings and children. I thank you for your support through the thick and thin. I say, GOD richly bless you.

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LIST OF ABBREVIATIONS

AVE	-	Average Variance Extracted
BAF	-	Business Assistant Fund
CEO	-	Chief Executive Officer
CFA	-	Confirmatory Factor Analysis
CPA	-	Certified Public Accountant
CR	-	Composite Reliability
CSR	-	Corporate Social Responsibility
DC	-	Dynamic capability
DEA	-	Data Envelopment Analysis
EPA	-	Environmental Protection Agency
ESG	-	Environmental, Social and Governance
ESO	-	Entrepreneurial Sustainability Orientation
FBL	-	Financial Bottom Line
GDP	-	Gross Domestic Product
GEO	-	Global Environmental Outlook
GHRMPS	-	Green Human Resources Management Practices
GIPC	-	Ghana Investment Promotion Council
GLMP	-	Green Logistic Management Practices
GLPs	-	Green Logistic Practices
GML	-	Global Malmquist-Luenberger
GMO	-	Green Marketing Orientation
GNPC	-	Ghana National Petroleum Corporation
GSCM	-	Green Supply Chain Management
GSCMPS	-	Green Supply Chain Management Practices
GSS	-	Ghana Statistical Service
GTI	-	Green Technology Innovation
HRM	-	Human Resource Management
HTMT	-	Heterotrait-Monotrait
IGMO	-	Internal Green Marketing Orientation
IoT	-	Internet of Things
IPCC	-	International Panel on Climate Change
ISO	-	International standard organisation
MD'S	-	Managing Director's
MO	-	Market Orientation
NGOs	-	Non-Governmental Organisation
NRB	-	Natural Resource Base
OCBE	-	Organisational Citizenship Behavior for the Environment
OGMO	-	Operational Green Marketing Orientation
OP	-	Organisational Performance
PFJ	-	Planting for Food and Jobs
PLS-SEM	-	Partial Least Squares Structural Equation Modelling
R&D	-	Resource and Development
ROA	-	Return on Assets
SBM	-	Super Slack Based Measure model
SDGs	-	Sustainable Development Goals

SEM	-	Structural Equation Model
SET	-	Social and Ecological Thought
SGMO	-	Strategic Green Marketing Orientation
SMEs	-	Small and Medium Enterprises
SPSS	-	Statistical Package for the Social Sciences
SRMR	-	Standardised Root Mean Square
SVFT	-	Supplies-Values Fit Theory (SVFT)
TA	-	Technological Adoption
TBL	-	Triple bottom line
TGMO	-	Tactical Green Marketing Orientation
UNEP	-	United Nations Environmental Program
UNFCCC	-	United Nations Framework Convention on Climate Change
USD	-	United States Dollars
US-EPA	-	United States Environmental Protection Agency
VIT	-	Variance Inflation Factor

ABSTRACT

The practice of green marketing orientation (GMO) is viewed in recent times by organisations as a differentiation tool to achieve organisational performance. The rise in the practice of green marketing orientation in marketing practice and management has attracted scholarly attention in the past few decades and depending on a particular discipline, the concept has witnessed different conceptualisations. However, for this study, the concept has been conceptualised as Strategic green marketing orientation (SGMO), Tactical green marketing orientation (TGMO) and Operational green marketing orientation (OGMO) and how they together impact organisational performance (PERF). Following the conceptualisation above, the key objective of this study was to investigate the impact of green marketing orientation (GMO) dimensions on organisational performance (PERF). Where organisational performance is operationalized as an organization's ability to minimise its carbon emissions in the production process, reduce energy consumption and water consumption. The study also introduced Technology adoption (TA), social and ecological thought (SET) as a mediator and moderator respectively in the relationship between GMO dimensions and PERF. The research further used the Natural resource-based theory (NRB), Dynamic capability theory (DC) and the Stakeholder theory as complementing theories in this study. A quantitative descriptive survey method with 152 respondents made up of senior managers in the food and beverage sub sector of the manufacturing industry in the greater Accra region was used for the research. Smart PLS-Structural equation modelling was used to analyse the primary data by estimating the measurement and structural model as well as examining both the mediating variable (TA) and moderating variables (SET) to determine their effects on the relationship between GMO dimensions and PERF. Findings indicate that strategic green marketing orientation, operational green marketing, Technology adoption had a positive significant relationship with organisational performance. Again, the relationship between strategic green marketing orientation and technology adoption, operational green marketing orientation and technology adoption and finally tactical green marketing orientation and technology adoption had a significant relationship with organisational performance. However, tactical green marketing orientation had a negative relationship between green marketing orientation and organisational performance. The findings further revealed that social and ecological thought moderated the relationship between strategic green marketing orientation and organisational performance while the relationship between social and ecological thought and operational green marketing orientation was not moderated. Regarding mediation analysis, the study found a significantly positive relationship between technology adoption (TA) and GMO dimensions (Strategic, Operational and Tactical orientation) on organisational performance. Other matters relating to the study's implication, future research opportunities and contribution was discussed thoroughly in chapter nine (9) of the study.

CHAPTER ONE

INTRODUCTION

1.0 Chapter Overview

This chapter presents a general introduction to the study, setting the background and outlining the areas which constitute the research problem. These are developed into specific research objectives and subsequently formulated into three specific research objectives. The chapter also discusses the justifications of the research questions and the relevance of the study. It ends with a chapter outline of the entire study and a conclusion.

1.1 Background of the Study

In contemporary times, green enthusiasts all over the world have raised concerns about environmental issues as they have assumed critical importance in the socio-economic development of many countries. The reasons for this surge are varied but have been largely due to the increasing space claimed by both natural and anthropogenic activities and their resultant environmental degradation (Masri & Jaaron, 2017; Masron & Subramaniam, 2019; Asif et al., 2020). These environmental issues, some of which have been linked to activities of manufacturing organisations, especially those in the food and beverage industry are being mitigated through the introduction of green marketing practices. Green marketing is defined as a company's dedication to creating safe, environmentally friendly products and services, using easily decomposable and recyclable packaging, improved pollution control techniques, and more economical energy consumption. Green marketing, also known in literature as environmental marketing (Ardito & Dangelico, 2018), has therefore become a preferred option in current environmental management discourse because it facilitates the development of important ecological management in the wake of environmental challenges. Against this background, effective marketing strategies which are green-focused are necessary to gain competitiveness against competing

organisations leading to enhanced company performance especially since businesses are now operating in a competitive global regime. Based on the above, food and beverage organisations are beginning to integrate environmental sustainability imperatives as part of their culture to show their commitment to issues of the environment.

Following the emergence of green marketing as a tool to mitigate environmental externalities, green economy theory has also emerged as an important conceptual tool for explaining individual and collective actions within a 'social structure' in managing food and beverage organisations' negative environmental impact. The green economy theory also underpins how food and beverage organisations' adoption of technology (TA) and social-ecological thought (SET) can help mitigate the impact of its activities on society and ecology. Again, industrialisation and population growth negatively impact the environment and existing natural resources (Khandelwal & Yadav, 2014). Environmental issues, including resource depletion, ozone layer degradation, global warming, deforestation, and the proliferation of hazardous waste, have become prevalent features of contemporary existence (Dangelico & Vocalelli, 2017). As a result, the ecosystem has reached a tipping point, and according to some experts, humanity faces grave danger if current consumption patterns continue. To mitigate this, organisations especially those in the food and beverage industry must establish strategies to counter pollution and preserve natural resources in response to current environmental challenges. Jacob (2001) and Alraja et al. (2022) thus assert that green related environmental imperatives ought to be incorporated into the overall marketing mix, encompassing communication and product development within food and beverage organisations. To achieve the above a variety of ecological management initiatives have been established, including environmental sustainability, planetary protection, ecological safety, green revolution, and sustainable development. Numerous companies in the manufacturing sector including the food and beverage industry utilise green marketing orientation (GMO) dimensions to boost their performance and corporate reputation (Asamoah et al., 2022; Afum et al., 2023) through the incorporation of the principles of green marketing orientation throughout the organisation. Although these measures exist, the study noted a scarcity of research regarding the impact

of green marketing orientation (GMO) dimensions on organisational performance (OP), despite the growing literature examining the implementation of green marketing and its benefits in corporate settings (Mukonza & Swarts, 2020; Sana, 2021). Consequently, despite the challenges of globalisation, the study seeks to investigate the concept and application of green marketing orientation dimensions conceptualised as (Strategic, Operational, and Tactical) and how it enhances organisational performance in the food and beverage industry of Ghana.

Further, while studies in different marketing and policy fields demonstrate the usefulness of the green economy, its utility for explaining the impact of green marketing orientation (GMO) dimensions on organisational performance (OP), in particular, has been limited. Considering the above, this study sought to investigate the impact of green marketing orientation (GMO) dimensions on organisations' performance (PERF). Organisational performance was operationalized as an organisation's ability to minimise its carbon emissions in its production process, reduce energy consumption and water usage. However, to ensure theoretical rigor, Technology adoption (TA) was introduced as a mediating variable while social and ecological thought (SET) was used as a moderating variable to determine the relationship between GMO dimensions and organisational performance (PERF). In extant literature, the practice of green marketing by organisations helps to unveil the social forces that may impact their operations. These social forces include norms, values and expectations that shape how various stakeholders perceive the organisation when it comes to their green practices and thus influence whether or not customers will want to purchase from such an organisation. These norms, value and expectations significantly play a role in shaping behaviour towards environmentally compliant organisation and their products. Therefore (Chung, 2020; Roh et al., 2022) posit that, the effective exploitation of green marketing orientation dimensions leads to competitive advantage, efficiency and innovativeness resulting in organisational performance. To give a global, Africa and Ghanaian perspective, the manufacturing sector particularly those in the food and beverage industry have been recognised as key drivers of planetary boundary transgressions as their impact on the environment are systemic and

interconnected especially at the global level. The impact of these manufacturing activities on the environment is most manifested on issues relating to climate change. The sectors contribution to greenhouse gases (GHG) emissions is estimated to be approximately one third of the total global emissions. These negative imperatives are attributed to the high rise in energy intensive manufacturing practices, emissions from agricultural and manufacturing practices as cited by the international Pannel on climate change (IPCC, 2022), and also in multiple reviews. Another area of concern is water scarcity and pollution. The food and beverage industry is noted for its high-water intensive use for the production of the liquid beverage and use for cleaning in progress (CIP). These activities especially CIP usually involves huge volumes of polluted water from the discharge of nutrient rich organic wastewater as opined by Poor and Nemecek (2018). This effluent, high in biological oxygen demand (BOD), nitrogen, and phosphorus, can cause eutrophication in freshwater bodies, depleting oxygen and harming aquatic ecosystems. Again, the activities of the manufacturing industry account for resource depletion and waste generation owing to its consumption of packaging materials with low grammage which has contributed significantly to the global solid waste crisis. Furthermore, food loss during processing and manufacturing represents a waste of the land, water, and energy resources used in production. To mitigate these negative occurrences, scholars have it that, the implementation of green marketing orientation and circular economy approach is increasingly appropriate (Jaeger et al., 2023).

Apart from its global effect, the activities of manufacturing organization from the African perspective have significantly accoutered to the global outlook. The contribution of African to the global environmental injustice is thus exacerbated by infrastructural challenges, rapid population growth, and the economic centrality of agro-processing. These factors affect water pollution from agro processing. Industries like breweries and dairy sectors are significant industries that have contributed to water pollution across Africa. The high organic load of their effluent, if untreated, devastates local rivers and water sources, which are often directly used by communities for drinking and sanitation. These negative impacts were revealed in a study on the Nile Basin where the severe impact of untreated industrial

effluents, from the food and beverages industry (F&B) impacted on water quality and public health (Mekonnen et al., 2022). Issues of energy inefficiency and reliance is of significant concern. This is so because many food and beverage (F&B) manufacturers face unstable supply of electricity, leading to an over reliance on diesel generators, which increases their carbon footprint and local air pollution. These in the long term contributes significantly to the global environmental conditions. These environmental practices are not limited to the global and African perspective, but also the Ghanaian context. Ghana's vibrant F&B sector, is a significant contributor to gross domestic product (GDP) but also faces acute environmental challenges, with water pollution, energy consumption and plastic waste concerns. Industrial pollution of water bodies is one of the most cited environmental concerns attributed to the activities of the food and beverage industry. Major example are the Odaw River in Accra and rivers in industrial areas like Tema and Kumasi. Scholars posit that, Effluents from breweries and palm oil mills are frequently identified as major culprits. A specific concern is the contamination of the Korle Lagoon and other water bodies with organic waste, heavy metals, and other pollutants from adjacent industries, severely damaging aquatic life and posing health risks (Fio et al., 2023).

Another issue of concern has been the plastic waste crisis especially sachet water bags and pet bottles from beverage companies that have resulted in the pollution of gutters that has contributed to the seasonal flooding in Accra and other major cities. These effects of negative environmental practices are attributed to weak enforcement of environmental regulation, mostly by the Environmental Protection Agency (EPA). These poor enforcement practices include Inadequate monitoring, corruption, and the high cost of effluent treatment plants for small and medium-sized enterprises (SMEs) that have led to widespread non-compliance by operators in the manufacturing sector on Ghana (UNIDO, 2024). In conclusion, the negative environmental impacts of F&B manufacturing are significant at all scales. Globally, the focus is on its role in climate change and systemic resource use. In Africa, the consequences are more localized but severe, manifesting as water pollution and waste management crises that directly affect community health and ecosystems.

In Ghana, these African-wide challenges are crystallized in the severe pollution of specific water bodies like the Korle Lagoon, excessive energy consumption, rampant emissions of carbons and the pervasive problem of plastic sachet waste, all within a context of regulatory enforcement challenges. The solution to these is to advocate for Circular Economy principles, cleaner production technologies, and stronger policy enforcement to mitigate these pressing issues aided by the implementation of green marketing orientation across the manufacturing sector.

1.2 Problem statement

Given the increasing prevalence of social injustice, climate change, and global warming challenges in today's society, it is clear that substantial, even revolutionary, change is required, as posited by the International Panel on Climate Change and the United Nations Environmental Program reports (UNEP & UNEP, 2020; IPCC, 2021; IPCC, 2019;). The manufacturing sector, especially those in the food and beverage industry, in particular, are said to be responsible for a considerable portion of the world's social and environmental injustices owing to their excessive use of energy, water, waste disposal and the rate at which carbons are emitted from their production practices. Consequently, organisations in the food and beverage industry are now increasingly being compelled to re-evaluate the environmental effects of their operations (Ahmad et al., 2023; Gelderman et al., 2021). In reality, the top 1,200 manufacturing companies in the world create more than USD $5 trillion in negative ecological externalities per year (Juniper, 2018; Makower et al., 2020; Dyck & Manchanda, 2021). Therefore, in order to protect natural resources and slow climate change, managers in the food and beverage industry are being pushed by a variety of stakeholders to embrace more sustainable practices (Nygaard & Silkoset, 2022). Despite the growing prevalence of sustainability reports (Christensen et al., 2021; GRI, 2022; KPMG, 2021) detailing the impact of poor manufacturing practices, food and beverage organisations continue adhere to a profit-maximizing business philosophy thus falling short when it comes to socio-environmental issues (Dyllick & Muff, 2016; Landrum, 2018).

The negative impact of these growing social and environmental concerns has thus necessitated the urgent need for food and beverage organisations whose activities impact the society and the broader environment to introduce the concept of green marketing orientation (GMO) dimensions at the strategic, operational and tactical levels of the organisations as a way of mitigating the impact of their production practices on the environment with the aid of Tecchnology.

1.3 Issue Gaps

From a wider social perspective, some academics contend that rather than sustaining individualistic, market-centric, profit-maximizing narratives, market systems and economic structures should change to embrace more integrated, holistic, and socio-environmentally focused narratives (Lovins et al., 2018; Waddock, 2021a,b). This perspective has led to crucial and more continuous discussions regarding nature preservation, the minimization of pollution resulting from human actions and the business activities that have been noticeable in the global space from consumers' and companies' perspectives (Cheema et al., 2015). Therefore, companies are urged to match their goals with the United Nations Sustainable Development Goals (SDGs) 12 as set by the United Nations (UN). These objectives concentrate on encouraging sustainable patterns of consumption and production (Odoom et al., 2023) which have implications for the environment. In spite of these calls, the environmental sustainability of sub-Saharan African nations has achieved only modest progress (Reimsbach & Braam, 2023). This means businesses in Africa must switch to environmentally friendly production strategies to align with these SDGs. Research suggests that companies that implement a proactive environmental strategy perform better (Hart, 1995; Ates et al., 2012; Dai et al., 2017; Sebaka et al., 2023; Iddrisu, 2023; Aftab et al., 2023; Nguyen et al., 2024; Bonsu & Osei, 2024). On the other hand, conflicting empirical results suggest that performance improvement is not always a direct result of proactive environmental strategy (Appannan & Kaur, 2023; Chowdhury et al., 2023; Liboni et al., 2023). For instance, Li et al. (2016); Simmou et al. (2023) found no evidence of a significant direct impact of proactive environmental strategy on financial and environmental performance.

These contradictory results might make it difficult to understand how proactive environmental strategy supports the achievement of environmental goals and might make it more challenging to put proactive environmental strategy into practice. Although related empirical studies are still uncommon and merit more investigation, some studies contend that the omission of important mediating variables and the mismatch between strategy and business structures may contribute to the inconsistent results (Park et al., 2023; Shahzad et al., 2024; Abdelkader et al., 2024).

1.3.1 Theoretical Gaps

Most of the investigations in green marketing orientation and sustainability have theoretically been studied using the lens of the natural-resource-based view (NRBV), resource advantage theory (Wilburn Green et al., 2015; Mahmoud et al., 2017), and stakeholder theory (Line & Wang, 2017b). However, the combined use of NRBV, Dynamic capability theory (DC) and stakeholder theories to investigate the relationships between green marketing orientation dimensions and organisational performance while looking at the intervening effect of technology adoption (TA) and the interaction effect of social and ecological thought (SET) on the relationship between green marketing orientation (GMO) dimensions and organisational performance (OP) have not been extensively explored. Thus, this study will use the theories above to test the relationship between green marketing orientation dimension and organisational performance to help deepen understanding of green marketing orientation (GMO) Dimensions on Organisational performance (OP) within the manufacturing sector of Ghana. Few companies in contemporary times have adopted social and ecological thought, which delivers societal value, as a strategic business plan (Attaianese & Rigillo, 2021). Social and ecological management is based on the moral point of view of virtue ethics, which rejects utilitarian ethics and describes how the Financial Bottom Line (FBL) focusing on profit maximization is unable to address ecological and social issues. Proponents of Social and Ecological Thought (SET) again opine that Triple Bottom Line (TBL), although more sustainable than FBL, is believed to be inadequate in addressing socio-ecological challenges (Ch'ng et al., 2021; Dyck & Manchanda, 2021; Ferrell, 2021). This is because the main assumption is a focus on a company's financial bottom line, and thus, any responsibility for social and

ecological well-being is the responsibility of the central government and other stakeholders (Friedman, 1970; Hunt, 2017; Kurucz et al., 2014). The use of social and ecological thought (SET) and technology adoption (TA) in business settings has received little attention from researchers, especially in developing nations like those in the sub-Saharan African region (Winkelmann et al., 2022; Mahran et al., 2024). Additionally, this research is warranted because sub-Saharan African countries face immense environmental, social and economic pressures amid rapid development. Therefore, SET approaches guided by new technologies could help businesses address these challenges in an integrated manner. Insights across sectors/nations would better inform policy to unleash the approach's potential for furthering sustainable development goals (Prothero & McDonagh, 2021). Investigating the moderation effects of social and ecological thought (SET) can shed light on how the alignment with social thought and ecological awareness influences the effectiveness of green marketing orientation in achieving organisational performance. Therefore, as far as this study is concerned, there has been little empirical study into the idea of SET marketing acting as a moderator and technology adoption as a mediator while using Natural resource-based view (NRBV), Dynamic capability (DC) and stakeholder theory to complement the study on the impact of green marketing orientation dimensions on organisational performance. In order to run sustainably, businesses are under pressure to improve through utilizing technologies (Winarsih et al., 2021). In the manufacturing sector therefore, sustainability practices are facilitated by the technologies utilized to create and implement innovations, tools and scientific knowledge that aids green practices (Mustafa & Abbas, 2021).

The adoption of technology in extant literature by manufacturing organisations present both desirable and undesirable outcomes as far as performance is concerned (Karjaluoto et al., 2009; Cirera et al., 2021; Yusoff et al., 2022). There is however little empirical study on how technology adoption acting as a mediator affects organisational performance (Singh et al., 2017; Chege & Wang, 2020) especially in the food and beverage industry particularly in Ghana. Therefore, the role of technology as a mediator in the relationship between green marketing orientation dimensions and organisational performance, together with NRBV, DC and stakeholder theory, has not been sufficiently explored.

Technology has the potential to enable the implementation of environmentally friendly practices and reinforce organisational values and objectives related to innovation, efficiency, and sustainability.

By understanding how technology adoption influences sustainable performance, businesses can make informed decisions about adopting and implementing green practices, leading to improved environmental outcomes and long-term business success (Cirera et al., 2021; Alraja et al., 2022). According to Chege et al. (2020), 2 percent on average of organisations use technology in developing economies. Therefore, to measure the role that technology adoption and social and ecological thought play in the relationship between green marketing orientation dimensions and organisational performance, the study makes contributions to both theory and practice by developing a model that is anticipated to provide an inclusive theoretical framework. While green marketing orientation presents opportunities for competitive differentiation and legitimization of operations, questions remain regarding their long-term interactions with organisational performance in developing country contexts like Ghana (Appiah-Adua, et al., 2016). In particular, the intervening role of technology adoption and interaction influence of social-ecological mind-sets of manufacturing organisations on the relationship between green marketing orientation dimensions and organisational performance over time require further examination.

1.3.2 Methodological Gaps

The study of green marketing and organisational performance has been conducted extensively around the world (Roh et al., 2022). However, the application of methodology in the study has seen the use of varied approaches in the study area. Several scholars have employed conceptual approaches to explore green marketing (Lim et al., 2022; Chahal et al., 2014; Bradu et al., 2022; Saleem et al., 2021; Vilkaite-Vaitone & Skackauskiene, 2019; Dyck et al., 2023; Canavari & Coderoni, 2019; Prothero & McDonagh, 2021; Dyck & Manchanda, 2021; Sheth & Parvatiyar, 2021; Dentoni et al., 2021; Laczniak & Murphy, 2019; Wood, 2019). While valuable for theory development, these conceptual works often lack empirical validation. This highlights a significant gap that quantitative methods can address by

providing empirical evidence for theoretical propositions. Apart from these conceptual, methodological approaches, many authors examining green marketing and performance have also employed mixed methodology in the study of the concept (Abutaleb & El-Bassiouny, 2020) . However, as Creswell and Creswell (2017) argue, mixed methods are most valuable when exploratory research needs to be conducted before relationship testing. Given the substantial theoretical foundation already established in green marketing literature, the primary research needed now is to centre on testing established frameworks rather than developing new constructs. Again, apart from the use of these two methodological tools, the study area has also seen some works done using qualitative methods in the conduct of research into green marketing (Mehraj & Qureshi, 2020; Tabavar et al., 2021; Gustavo et al., 2021; Olson, 2022; Mukonza & Swarts, 2020; Toufaily et al., 2021; Brindley & Oxborrow, 2014; Groulx & Lewis, 2019). These approaches excel at providing rich contextual understanding but face limitations when examining causal relationships between multiple variables simultaneously, a critical requirement for understanding how green marketing orientation dimensions influence various aspects of organizational performance.

However, despite the use of these varied methodological approaches in the study of green marketing, the use of quantitative research methods in the conduct of research in the area of green and sustainability marketing is dominant, as seen in the works of (Ansari et al., 2022; Nuryaki & Maryati, 2022; Khaleeli et al., 2021; Gelderman et al., 2021; Prieto-Sandoval et al., 2022; Ibrahim & Atheeb, 2023; Moise et al., 2021; Amoako et al., 2022; Jaiswal et al., 2022; Chou et al., 2022; Jung et al., 2020; Su et al., 2022; Papadas et al., 2019; Qureshi & Mehraj, 2022; Yarimoglu & Binboga, 2019). From the body of literature in green marketing and organisational performance, it was evident that the use of quantitative methods far outnumbered conceptual works, works using qualitative methods, and works using models and frameworks as analytical tools. As Hair et al. (2019) emphasize, quantitative approaches provide the statistical rigor necessary to test hypothesized relationships, enabling researchers to draw generalizable conclusions that can inform business practice. The dominance of quantitative methods in this field is not accidental but reflects their effectiveness in addressing the specific research questions central to

green marketing orientation studies. The use of quantitative methods outweighs the other methods to affirm the interest of researchers in the use of quantitative tools in researching issues of green marketing orientation and organisational performance in recent times. Kumar et al. (2013) specifically note that quantitative methods allow researchers to measure the relative influence of different green marketing dimensions on performance metrics while controlling for external factors. For examining mediating relationships, quantitative methods offer specialized analytical techniques that other approaches cannot match. As Hayes (2018) demonstrates, mediation analysis provides robust evidence for how and why marketing strategies translate into performance outcomes, offering insights critical for managerial decision-making. Thus, this study will employ the use of the quantitative method to examine the relationships between green marketing orientation and organisational performance and also look at the impact of technology adoption and social and ecological thinking on the relationship between green marketing orientation dimensions and organisational performance.

1.3.3 Contextual Gaps

Most of the studies on green marketing are concentrated in the Middle East, Asia and Western countries, with limited studies on the role of green marketing orientation dimensions on organisational performance in Africa (Sheth & Parvatiyar, 2021) and, by extension Ghana (Asamoah et al., 2022). However, few studies in the area of green marketing address how the mediation effect of technology adoption and the moderation influence of social and ecological mind-set of organisations affect sustainable practices and performance. The continent of Africa has been specifically ignored. Therefore, to measure the role that technology adoption and social-ecological thought (SET) play in the relationship between green marketing orientation dimensions and organisational performance, the current study aimed to make contributions to both theory and practice by developing a model that is anticipated to provide an inclusive theoretical framework. The current research on firms addresses the determinants of the adoption of environmental and social practices, such as environmental productivity and performance (Rahman & Post, 2012; Revell et al., 2009), environmental and social practices

(Chang et al., 2018), social performance (Sutantoputra, 2009), and green innovation (Arnold, 2017) and does not address how technology adoption affects sustainable practices and performance specifically on the continent of Africa. In conclusion, the negative environmental impacts of F&B manufacturing are significant at all scales. Globally, the focus is on its role in climate change and systemic resource use. In Africa, the consequences are more localized but severe, manifesting as water pollution and waste management crises that directly affect community health and ecosystems. In Ghana, these African-wide challenges are crystallized in the severe pollution of specific water bodies like the Korle Lagoon, excessive energy consumption, rampant emissions of carbons and the pervasive problem of plastic sachet waste, all within a context of regulatory enforcement challenges. The solution to these is to advocate for Circular Economy principles, cleaner production technologies, and stronger policy enforcement to mitigate these pressing issues aided by the implementation of green marketing orientation across the manufacturing sector.

1.4 Research Purpose

The phenomenon of green marketing has gained prominence in recent times as many scholars have studied its evolution from the days of sustainability marketing to its current state (Eneizan, 2020; Mugoni et al., 2023). Despite the large number of studies conducted in the field of green marketing, very little research has been conducted on how technology adoption and social and ecological thought affect organisational performance in developing nations of Africa. Therefore, the key rationale for this study is to investigate the role of technology adoption and social and ecological thought in shaping the adoption and implementation of green marketing orientation dimensions within organisations in developing countries leading to performance, with a focus on the food and beverage industry which is a sub set of the manufacturing industry in Ghana. The manufacturing industry, like many other sectors, has a significant environmental impact due to its resource consumption, waste generation, energy consumption and carbon emissions (Krishna et al., 2021; Panagiotopoulou et al., 2021; Kokare et al., 2023). Developing countries often have a growing consumer base with little or no awareness of

environmental issues, while developed countries have an increasing number of consumers who have environmental awareness (Amin et al., 2024; Kumar, 2024). Therefore, by adopting green marketing orientation, manufacturing companies can tap into this market of environmentally aware consumers to differentiate themselves from competitors (Jain et al., 2024; Hanaysha & Al-Shaikh, 2024). Technology adoption (TA) and social and ecological thought (SET) play a crucial role in enabling the implementation of green marketing practices, such as developing eco-friendly packaging materials, implementing recycling programs, and improving supply chain efficiency (Ismail et al., 2023; de Oliveira et al., 2024). Understanding the roles of technology adoption and social and ecological SET in green marketing can help identify innovative solutions to address these environmental challenges.

1.5 Research Objectives

The Main objective of this study is to investigate the impact of green marketing orientation dimensions on performance while analysing the mediation and moderation effect of the relationship on the Food and Beverage organisations in Greater Accra.

The sub-objectives include:

1. To examine the effects of green marketing orientation dimensions (Strategic, Tactical and Operational green marketing orientation) on organisational performance.
2. To test the mediating role of technology adoption on the relationship between green marketing orientation dimensions and organisational performance.
3. To investigate how an organization's view on Social and Ecological considerations moderates the relationship between green marketing orientation dimensions and organisational performance.

1.6 Research Questions

1. What is the relationship between green marketing orientation dimensions and organisational performance?
2. How does technology adoption mediate the relationship between green marketing orientation dimensions and organisational performance?
3. How does Social and Ecological Thought (SET) moderate the relationship between green marketing orientation dimensions and organisational performance?

1.7 Research Significance

The significance of the study is anchored on three main aspects: research, practice and policy. This study recognizes that although several studies exist on green marketing practices among organisations, studies on the impact of green marketing orientation dimensions on organisational performance have been limited to the Global North. The Global South has not been given enough attention, although the South bears the burden of climate variabilities and therefore must be considered in literature. In light of this, this study seeks to fill the gap by applying the Natural Resource Based View theory (NRBV), Stakeholder theory, and Dynamic Capabilities theory (DC) to provide empirically verifiable data on the social forces underlying the relationships between technology adoption (TA), social-ecological thought (SET), green marketing orientation (GMO) dimensions, and organisational performance (OP). The aim is to generate insights that enhance understanding by emphasizing the importance of green marketing orientation dimensions and organisational performance. This will offer richer and better explanations of marketing policy outcomes. In terms of practice, the findings of this research offers practical insights for manufacturing companies in Ghana on the adoption and implementation of effective green marketing orientation. By understanding the specific impact of these green marketing orientation dimensions on organisational performance, organisations can develop targeted approaches to enhance their environmental performance, reputation, and market competitiveness.

The study will thus be leveraging technology as a means to integrate sustainability practices and foster a culture of innovation and efficiency. Additionally, the insights on the moderation role of social and ecological thought will help organisations align their strategies with societal values and ecological awareness, leading to more sustainable business practices. In terms of policy, the study will give direction to governments on how to design and implement policy directed at sustainable consumption. The research outcomes will inform policymakers and regulatory bodies in Ghana about the benefits and challenges linked to the implementation or otherwise of green marketing orientation in the manufacturing sector, specifically the food and beverage industry of Ghana.

The findings may influence the development of policies and regulations that encourage and support the adoption of green marketing practices by manufacturing organisations. Policymakers on their part can use the research insights to design incentives, subsidies, and frameworks that promote the integration of technology and the alignment of social and ecological thought with green marketing orientation. The study further suggests strategies for marketing practitioners to design plans that further the practice of green marketing that satisfies the requirements of green marketers and green lovers. Lastly, the research advances knowledge in the subject area, especially from a developing country perspective, and also allow future researchers to further explore the phenomenon. In terms of academia, the study will contribute to the academic literature by expanding the knowledge base on green marketing orientation dimensions and organisational performance in the food and beverage industry while incorporating three theories of NRBV, DC and Stakeholder theories. The investigation of the mediating role of technology adoption and the moderating role of social and ecological thought will provide a deeper understanding of the underlying mechanisms and boundary conditions in this relationship. The research outcomes will contribute to the theoretical frameworks and models in the fields of marketing, sustainability, and organisational behaviour. The findings serve as a foundation for further research and exploration in related areas, fostering academic discussions and advancements. In terms of theory, the study will contribute to the development of the fields of green marketing orientation and organisational behaviour by examining the mediating and moderating roles of technology adoption, social thought, and

ecological thought. The study further provides empirical evidence to validate or refine existing theories and frameworks related to green marketing orientation and its impact on organisational performance. The insights gained from this research contributes to the development of a more comprehensive theoretical understanding of the relationships between green marketing orientation dimensions and organisational performance through the lens of NRBV, DC and Stakeholder theories.

1.8 Delimitations of the Study

Delimitations are deliberate choices made by the researcher to narrow down the focus of the study by defining what aspects, variables, or contexts will be excluded from the research. The study specifically focuses on manufacturing companies in Ghana. It does not include companies from other regions or countries, limiting the generalizability of the findings to the Ghanaian context. The study is limited to the manufacturing sector and may not encompass other industries or sectors, which may have different dynamics and characteristics. The study is limited to the food and beverage industries located in Greater Accra.

1.9 Theoretical Framework

Environmental performance has become one of the primary goals of modern corporate organisations owing to the growing consumer, stakeholder and regulatory awareness about the negative activities of manufacturing organisations in recent past decades. Efficiency in energy, materials, and technology is achieved through the deployment of green marketing orientation dimensions within the organisation. The natural resource-based view (NRBV), which encompasses the natural environment (Hart, 1995), assumes a relationship between a firm's assets and its economic and natural environmental. At the heart of this theory is the belief that natural resources will become increasingly scarce in the future and that only organisations that effectively manage their ecological challenges will be able to sustain or generate a competitive edge. When environmental resources are exploited more effectively, the company's competitive advantage increases (Majumdar & Marcus 2011). Like the NRBV, the dynamic capabilities

theory emphasizes an organization's capacity to respond to and continually adapt to environmental and social changes in the environment. This theory contends that firms' adaptable capacities to integrate, create, and reconfigure internal and external resources and capabilities enable them to sustain competitive edge through innovation in environments that change quickly. Again, the study exploited the stakeholder theory, which assumes that organisations gain competitive advantage if they are able to effectively manage their relationship with entities that affect or are affected by their operations. The investigation of the connections between technology adoption, social-ecological thought (SET), green marketing orientation dimensions, and performance will use the natural resource based view (NRBV), stakeholder theory and dynamic capacities theory (DC) as complementing theories. Thus, this study examines how the social ecology paradigm modifies the relationship between green marketing orientation dimensions and organisational performance, as well as how technology adoption mediates the relationship.

1.10 Operational Definitions

The section explains the key constructs that formed the basis of this study. Thus, the section explains how the construct of green marketing orientation dimensions is operationalized in the study. It further explains how technology adoption and social and ecological thought representing a mediator and moderator respectively are operationalized in the study and lastly the outcome variable, organisational performance.

1.10.1 Green Marketing Orientation

Green marketing orientation refers to the business practices and activities employed by organisations to promote environmentally friendly products, processes, and values. These processes include product design and development, eco-labelling, sustainable sourcing, waste reduction, energy efficiency, and communication of environmental benefits to consumers (Kotler et al., 2020; Ottman et al., 2021).

However, for this study, green marketing orientation will be conceptualized as Strategic green marketing orientation, Tactical green marketing orientation and Operational green marketing orientation as conceptualized by (Chamorro & Bañegil, 2006; Gazquez-Abad et al., 2011; Papadas et al., 2017).

1.10.2 Organisational Performance

Organisational Performance refers to the desired outcomes, goals, or targets that organizations intend to achieve. In the context of this study, organisational performance specifically pertains to the reduction in Carbon emissions by organisations, Energy usage within the organization and Water management within manufacturing companies (Porter & Kramer, 2019; Moon et al., 2020).

1.10.3 Technology Adoption

Technology refers to the application of scientific knowledge, tools, and techniques to solve problems, improve efficiency, and achieve desired outcomes. In the context of this study, technology specifically encompasses innovative tools, processes, and systems that enable manufacturing companies in Ghana to adopt and implement environmentally friendly practices, such as renewable energy sources, sustainable materials, and advanced production methods (Bocken & Short, 2021; Sarkis et al., 2023).

1.10.4 Social Thought

Social thought refers to the prevailing societal values, norms, and expectations related to sustainability, environmental responsibility, and ethical conduct. In relation to this study however, social thought specifically relates to the societal views and expectations regarding green practices and corporate sustainability performance in manufacturing companies (Crane et al., 2019; Bansal & Song, 2021).

1.10.5 Ecological Thought

Ecological thought refers to the ecological awareness, understanding, and consideration of environmental issues within an organization. For this study, ecological thought specifically refers to the level of environmental consciousness and prioritization of environmental factors in the decision-making processes and practices of manufacturing companies (Berry et al., 2020; Bansal & DesJardine, 2022).

1.11 Chapter outline

The study comprises nine chapters. Chapter one considers the background and rationale for the study, the research problem and research objectives and questions of the study, the significance of the study, and an overview of the study structure. Chapter two discusses the context of the study by narrowing the research to the specific context where the study will be carried out, for example, the country, the industry and participants who were involved in the study. Chapter three covers the literature review, which reviewed existing literature on green marketing orientation, technology adoption, and social and ecological thought being the mediation and moderation effects over time and developed a conceptual framework linking the key concepts. Chapter four covers the theoretical framework and research model, theoretical propositions and hypotheses based on the conceptual framework, and presentation of the research model. Chapter five discusses the conceptualization of the constructs of the study and how they are interrelated. Chapter six covers the Research Methodology. It examines the research design and approach (quantitative, qualitative, mixed methods), Sampling strategy and sample size determination, Data collection methods (surveys, interviews, content analysis), measurement instruments and scales used to assess green marketing orientation (GMO), social and ecological thought (SET), organisational performance (PERF), Data analysis techniques (regression analysis, Mediation and moderation analysis). It also discusses ethical considerations, data validity and reliability. Chapter seven covers the empirical Findings and analysis. This chapter presents the analysis of the collected

data, descriptive statistics and demographic characteristics of the sample, and discussion of the empirical findings about the research questions and hypotheses. Chapter eight presents the discussion and interpretation of findings in light of the research objectives. It compares the findings with existing literature and discusses theoretical implications and contributions to the field, practical implications for marketers, influencers and businesses, the limitations of the study, and suggestions for future research. Chapter nine presents the conclusion and recommendations by looking at the summary of the study's main findings, conclusions drawn from the research, recommendations for practitioners, contributions to theory, and implications for future research and final reflections, limitations, and suggestions for further studies.

1.12 Chapter Summary

Chapter one of this research began with a chapter review introducing the key areas to be discussed, followed by the background of the study, problem statement, research gaps, research purpose, research objectives and research questions. The chapter ended by discussing the delimitations, theoretical framework, and operational definitions of the key constructs of the study.

CHAPTER TWO

CONTEXT OF THE STUDY

2.0 Chapter Overview

Chapter one, provided a brief background to the study together with an outline of the various stages of the entire study. This chapter focuses on an overview of the Ghanaian economy, followed by a discussion on the manufacturing sector in Ghana, and how the sector practices green marketing orientation. The chapter also provides a classification of the manufacturing sector, and discusses green marketing orientation and how it affects performance in the manufacturing sector. The remainder of the chapter discusses the context justification, chapter summary and finally chapter conclusion. The rationale of this study is to examine the impact of green marketing orientation dimensions on the performance of the manufacturing sector while also examining how technology adoption will mediate such a relationship and how social and ecological thought (SET) moderate the relationship between green marketing orientation dimensions and organisational performance.

2.1 Overview of the Ghanaian Economy

The country Ghana is located in West Africa and shares borders with Burkina Faso to the North, Togo to the East and Cote D'Ivoire to the West with a land mass of approximately two hundred and thirty-eight thousand, five hundred- and thirty-three- square Kilometres (238,533km$_2$) with a population of 32,823,000 people according to Ghana Statistical Service (Ghana Statistical Service, 2022). Ghana has English as its official language, with over one hundred ethnic groupings and indigenous languages. According to Baah et al. (2020) Twi, a dialect of the Akan people, is widely spoken in Ghana. Ghana is a developing country considered as a lower- to -middle-income country within the West African sub-region with a GDP of 75.84 billion USD according to the Bank of Ghana (Bank of Ghana, 2023). The Ghanaian economy is primarily composed of both private and public enterprises, with the service sector contributing to three-fifths of the GDP of the country followed by agriculture with one-fifth and industry contributing one-fifth as well (Ghana Statistical Service, 2022).

Ghana has a wide array of extractive resources, with Gold, diamond, manganese and bauxite being the most exploited. The country also has oil and natural gas reserves exploited by foreign companies but regulated by the Ghana National Petroleum Corporation (GNPC) (Gyekye et al., 2023). According to Akyeampong, (2009); and Baah et al., (2020), Ghana is considered a leading producer of cocoa, placing second in the world, and the second largest gold producer in Africa, as well as being blessed with several oil fields, tapped and untapped (Abdulai et al., 2022). Ghana exports cocoa, sawn wood, and most of its extractive natural resources to mostly European countries, Asia and the Americas (Mavhunga, 2023). Ghana is also an import-driven nation with most of its imports coming from Europe, the United States and China (Kusi et al., 2023; Kindo et al., 2024). On the international stage, Ghana is seen as a beacon of democracy and a gateway to Africa with several international organisations headquartered in Ghana (Gyekye-Jandoh & Ahmed, 2023). Despite its import-driven economy, Ghana post-independence has initiated a rigorous industrialisation policy leading to the establishment of manufacturing industries in various sectors including, production of food, beverages, tobacco, textiles, clothes, footwear, timber and wood products, chemicals and pharmaceuticals, and metals, including steel and steel products mostly for international and local consumption (Kwaku et al., 2024; Gyekye-Jandoh & Ahmed, 2023). This industrialisation drive initiated post-independence has continued to date, albeit at a slow rate. Although the growth of the food and beverage industry in Ghana has brought in its wake, direct and indirect employment and contributed to the country's GDP, scholars criticise the industry for its contribution to energy consumption, water wastage and its contribution to carbon emissions (GSS, 2022; Kumi, 2017). It is for this reason that, the study is being conducted in the food and beverage industry in Ghana to examine the impact of green marketing orientation dimensions on organisational performance and the role of technology adoption and social and ecological mind-set as a mediator and moderator respectively on the relationship between green marketing orientation dimension and performance.

2.2 Overview of the Manufacturing Industry

Ghana's manufacturing industry plays a significant part in the economy, contributing to employment, gross domestic product (GDP) growth, and industrial development (Ghana Statistical Service, 2022). The industry encompasses various sectors, including food processing, textiles, chemicals, pharmaceuticals, construction materials, etc. However, despite its numerous contributions to the GDP of Ghana which stands at 32%, (GSS 2024), it faces challenges such as inadequate infrastructure, high energy costs, limited access to finance, and stiff competition from imported goods as well as irregular supply of electricity, thus making the cost of doing business in Ghana very high (Danquah et al., 2022). Despite its significant contribution to Ghana's economy, the manufacturing industry has been declining over time due to a number of factors, including the global economy, politics, and local issues like high production costs (Amoako-Gyampah et al., 2020; Ghana Statistical Service, 2022). Notwithstanding this, the industry still contributes in a significant measure to employment through direct and indirect means, thus contributing to the development of the country. The manufacturing industry has historically benefited from government policies designed to shield it from competition and enhance its growth potential. Some of these policy interventions include laws on retailing goods by foreign entities, incentives for local production, investment promotion, and trade facilitation mechanisms aimed at making the Ghanaian entrepreneur competitive in the business space in Ghana (Amponsah, 2022). Although these protective measures exist, challenges also persist (Quartey et al., 2015).

Notwithstanding, Ghana is considered a hub for doing business within the continent, indicating that, despite the challenges, the country is still conducive for doing business especially for players in the food and beverage sector. Despite its conducive business environment coupled with policies put in place to protect the manufacturing industry in Ghana, it has also been identified as a major contributor to environmental degradation (Abdulai et al., 2022). More specifically, the food and beverage sector is estimated to contribute significantly to carbon emissions, energy consumption, water wastage and other forms of degradation hence, the use of the sector as a unit of measurement to test the impact of green marketing orientation dimensions on organisational performance in Ghana. The food and beverage

sector in Ghana is made up of players engaged in the manufacturing and importation of semi-finished food products for further production. Therefore, for this study food and beverage companies include manufacturers engaged in the production of bottled water, sachet and dispenser, alcoholic and non-alcoholic beverages and dairy products.

2.2.1 The Contribution of the Manufacturing Sector

The contribution of the manufacturing sector to national development, cannot be overemphasised, as according to Asare (2014), and cited in Afum et al. (2020), the sub-sector contributes 85% to the national employment figures. By way of the sector's contribution to GDP, reports from the Ghana investment promotion council (GIPC, 2024) put the sector at 29% with a value-added GDP of GHC 49 billion. Despite the significant role of the sector to national development, there is also a worrying concern about the impact of the sector on the environment. A report by United Nations Environmental Programme (UNEP, 2013) indicates that, from the period 2008 to 2011, the contribution of the sector to gross domestic products (GDP) was approximately 1.7%. However, according to the United Nations Environmental Programme, the sector is Ghana's largest source of greenhouse gas emissions and its cost to GDP was estimated to be 10% (UNEP 2013). These reports about the poor environmental credentials of the manufacturing sector in Ghana have resulted in the sector factoring green initiatives into their operations as a way of offsetting the percentage of their environmental cost and in the process enhancing environmental, social and economic performance (Acerbi & Taisch, 2020). These green initiatives notwithstanding, the apparent poor environmental record of Ghana's manufacturing sector has increased the need for studies on how well organisations perform in terms of the environment. For this reason, this study examines how green marketing orientation dimensions impacts organisational performance in the food and beverage sector, particularly in Ghana.

The remainder of this chapter discusses the following: Understanding the food and beverage sector in Ghana, classification of the manufacturing sector in Ghana, green performance in the manufacturing sector and green practices in the manufacturing sector in Ghana.

2.2.2 Understanding the Beverage Sector in Ghana

The economic sector is made up of three sub-sectors that, over the years, have contributed in a significant way to the growth of the Ghanaian economy. These sub-sectors include agricultural, service and industrial sectors, which include the manufacturing sector, of which the food and beverage sector is part. The beverage sub-sector is a growing enterprise in Ghana with many local and foreign players. According to Bacha et al. (1998), local beverages are those produced in the native region with the help of traditional methods using local ingredients. The production of these traditional beverages is usually within households (Green et al., 2020; Guerrero et al., 2009). The appeal of traditional beverages lies in their unique sensory attributes (Molnár et al., 2011), which are typically viewed favourably (Osei et al., 2021; Aboagye et al., 2020). However, the growth in the food and beverage sector in contemporary times has seen a shift in production from the use of traditional ingredients and methods to the use of concentrates and compounds from artificial to semi-natural ingredients, mostly from foreign companies using sophisticated production methods. This development can largely be attributed to industrialisation, which is seen as the engine of growth in most developing countries, including Ghana, owing to the intentional investment in the sector by governments (Tregenna, 2007; Kuturia & Raj, 2009; Szirmai, 2009; Timmer & De Vries, 2009). Despite the growth of the food and beverage sub-sector, the service sub-sector is currently the driver of the Ghanaian economy owing to its contribution to gross domestic product (GDP) with a 46.3 percentage points as of 2024 (GSS, 2024). The growth in the service sector brings into question the performance of the total manufacturing sector, which has seen a decline in its growth numbers despite the investment in the sector (Kalirajan, 2004).

The performance of the manufacturing sector has been unimpressive despite the numerous investments made into it, including the setting up of planting for food and jobs (PFJ) by the Ministry of Agriculture

with free and subsidised inputs to boost agro-food and fish processing and agro-processing. Other governmental initiatives include the one district, one factory initiative aimed at promoting among other things the export of textile and garments, and industrial starch under the government of Ghana flagship program. Despite these investments, the manufacturing sector's performance against GDP in 2019 was 34.2%, 31.8% in 2020, 30.4% in 2021 and standing at 34.2% in 2022, with little or no growth in the years in between compared to the service sector which has seen a consistent growth over the years with contribution to GDP figures ranging from 47.2% in 2019, 48.1% in 2020, 48.5% in 2021 and 44.9% in 2022. Apart from the above investments, there has been the establishment of the Ghana Investment Fund (GIF), aimed at replacing the Business Assistant Fund (BAF) to assist SMEs. Additionally, the Export Development and Investment Fund was established with $30 million seed money to encourage exporters. Other measures include the introduction of the Anti-dumping Bill to parliament, with the sole purpose of discouraging dumping of goods from Europe and Asia on the Ghanaian market to allow for the growth of local industries. Acceleration of the divesture process; the rationalization of the tariff regime; the accelerated growth programme; and the growth and poverty reduction strategy amongst other intentional strategies, were aimed at boosting the industrial sector because of its employment and GDP contribution potential. Despite these efforts, the industrial sector still experienced a slower rate of growth compared to the service sector with a gross value-added growth rate of 6.4% in 2019, -2.5% in 2020, -0.5% in 2021 and 0.9% in 2022 compared to the service sector which had 7.6%, 0.7%, 9.4% and 5.5% respectively within the same period (GSS, 2024). Though the manufacturing sub-sector dominates within the industrial sector with over half of the industrial sector contribution to GDP, its share to GDP has been declining consistently, losing its place to the other sectors of the economy (Enu, 2014). The continuous decline in the manufacturing sector can partly be attributed to these factors as cited in Enu (2014): "high inflation (40.5%), high lending rate (39 – 55%), high depreciation of the value of the cedi (49.7%), high utility charges, obsolete machinery and equipment (some installed 57 years ago) and high influx of cheap imported products in the name of liberalization." The Ghanaian manufacturing sector, according to literature is the leading contributor to greenhouse gases (Kumi &

Mahama, 2023; Agyemang & Wuni, 2023) and so, for the government to demonstrate its care for the environment and sustainability, the Environmental Protection Agency (EPA) was established under Act 490 to help regulate all economic and other enterprises whose actions or inactions have the tendency of affecting the environment negatively.

Additionally, the Environmental Assessment Regulation 1999 (LI.1652) was instituted with the aim of making it mandatory for organisations intending to register their businesses to submit their environmental management plans, practice or requirements as part of the requirements leading to the registration of a business. This decision can partly be attributed to the negative activities of manufacturing companies as they are known to be responsible for the discharge of organic and inorganic waste like acids, highly toxic minerals, such as mercury or arsenic, or toxic organic chemicals into the environment especially into water bodies (D'Angelo et al., 2023) which in the end has negative consequences for the environment (Bour 2019). These pollutants may enter the food chain and cause severe, long-term health complications for humans (Carter, 2005). The adverse effects of these activities of the manufacturing sector on the environment have been expressed in the Global Environmental Outlook 4 (GEO- 4) report, which indicated that industrial activities including manufacturing, are responsible for the increase in greenhouse gases (GHGs) which has increased the world's temperature by 0.74%. Thus (Sarkis 2017; Forsyth, 2002) have on their part bemoaned the over concentration on green environmental agenda at the expense of brown environmental issues, which, according to the scholars, deals with environmental issues associated with urban and industrial challenges such as pollution, improper waste disposal, and bad farming practices. It is therefore imperative that issues relating to the brown environment receive equal attention to according to Bour (2019).

Owing to the increased consumer awareness of these issues coupled with government regulations on the environment, manufacturing organisations are making efforts to reduce the negative effects of their manufacturing practices on the environment to the barest minimum. These strides, however, are being

hampered by a lack of access to financial credit to aid in the implementation of green initiatives, a lack of access to institutional support, and non-existent or poor legal enforcement systems (Danso et al., 2019).

2.3 Classification of the Manufacturing Sector

Classifying the manufacturing industry in Ghana involves categorizing the various sectors based on their products, processes, and their contributions to the national economy. Ghana's manufacturing sector has evolved over the years, experiencing growth and diversification in the various sub-sectors. According to the international standards for industrial classification done during the Ghana Housing and Population Census in 2010, twenty-one (21) classifications of the industrial sector were done ranging from agriculture, forestry, and fishing to manufacturing. To put it into the context of this empirical analysis, the study considered the classification of the manufacturing sector to include cocoa processing, textile and footwear, electronics and house appliances, engineering and machine tools, and agro processing which includes the food and beverage sector. However, the study context covered the manufacturing sub-sector comprising the blending of distilled spirits and beers, manufacture of soft carbonated drinks, production of mineral water and other bottled water, manufacture of dairy products including milk-based drinks, to test the impact of green marketing orientation dimensions on the performance of such organisations, most of which, according to literature, are known for their contribution to environmental degradation and greenhouse gases (Fang et al., 2022).

2.4 Green Marketing Practices and Performance in the Manufacturing Sector

The success of the manufacturing sector depends on the performance and achievements of its set targets and objectives. Until recently, performance was measured solely in financial terms.

However, with the increase in consumerism and environmentalism, other non-financial factors have been considered by organisations in their quest to achieve their environmental goals. Measuring performance allows organisations to realign and measure environmental performance goals. (Zeng et al., 2010). According to literature, the manufacturing sector contributes about 1.7% to GDP but the environmental cost of this sector is estimated at 10% to GDP (CPA, 2011; UNEP, 2013). The same authors posit that the manufacturing sector is the leading contributor of greenhouse gases in Ghana. To redeem their image as far as their record on environmental externalities is concerned, Ghana has since signed up to and ratified almost all the UN conventions relating to the environment including the United Nations Framework Convention on Climate Change (UNFCCC). Despite these efforts at reducing its poor environmental performance records, the country still lags behind in its quest to reduce GHG emissions (UNEP & UNEP, 2020). To affirm the poor environmental performance of Ghana, in 2010, the Environmental Performance Index of Yale University that ranked 163 countries on a 25-performance indicator scale scored Ghana 51.3% and ranked her 109th in the world. The report further posits that the estimated annual cost of environmental degradation is nearly US $850 million or 10.0% of GDP, which goes to offset GDP gains as cited by Bour (2019). In a study by Bour (2019) it was found that green logistics management practice enhances environmental sustainability and firm performance through the reduction of waste and energy and resource-efficient strategies. Furthermore, Khan et al. (2018) suggest that green logistic management practices (GLMPs) improve environmental and societal health status through reduced carbon emissions and solid waste. In measuring environmental performance, organisations have resorted to using "reduction in energy and material consumption, decrease in air and water pollution, minimization of waste generation and reduced usage of toxic and harmful materials, minimization of environmental mishaps, and rate of renewable energy consumption in measuring their performance (Yildiz Çankaya & Sezen, 2019).

Besides these environmental performance indicators, organisations have also resorted to measuring their performance using social indicators in enhancing their organisational reputation through the adoption of practices that safeguard the society and the welfare of employees through environmental

practices (Famiyeh et al., 2018). Furthermore, Afum et al. (2020), in their study of green marketing practice and sustainable performance in the manufacturing sector in Ghana, cited several cases of green practices in firm performance. Dubey et al. (2015) in their study concluded that, manufacturing firms that adopt green practices tend to benefit from high investor interest. This view has been held by other scholars who opined that manufacturing firms who uphold such green practices in their operations are usually rewarded with profitability (Yang et al., 2013; Laari et al., 2016; Roy & Khastagir, 2016). Apart from these financial-based performance indicators, Sezen and Cankaya (2013) and Zhan et al. (2018) posit that manufacturing firms that engage in green practice, positively and significantly influence both environmental and social performance, which also leads to a win-win relationship. Related studies by Adomako et al., (2019) opined that organisations that embark on proactive environmental practices perform better than organisations who fail to incorporate such practice into their business strategy. Khan and Qianli (2017) and Hassan et al. (2024) also hold the view that the adoption and implementation of green marketing practices play a significant role in fostering organisational reputation and public image. Thus, Diabat and Govindan (2011), Rehman and Shrivastava (2013), Rehman et al. (2023), Masri and Jaaron, (2017), Zaid et al., (2018), Afum et al., (2020) are of the view that, manufacturing firms can only be competitive when they adopt green manufacturing practices especially in emerging countries. Further, according to Afum et al. (2020), the implementation of green practices within organisations have become imperative in recent times owing to the pressure being mounted by pressure groups, green conscious groups and government regulators.

The author further opined that, green manufacturing practices as adopted by organisations include reducing emissions during production, reducing energy usage and input consumption during production and using eco-friendly energy (solar and wind energy). Mitra and Datta (2014) on the other hand highlight such practices to include training employees concerning product stewardship practices, designing and producing products with reusability and recyclability features, effective waste

management, and investing in eco-friendly technological equipment. The implementation of these green manufacturing practices presents numerous opportunities for organisations and the environment in which they operate and also prevents attacks from pressure groups and regulators. Implementation of green manufacturing practices ultimately acts as a yardstick for organisations striving to achieve a balance between their environmental, social and economic performance. Roy and Khastagir, (2016) posit that the successful implementation of green practices within an organisation helps in improving efficiency, which leads to financial gains while at the same time protecting the environment, leading to environmental performance. Through these green practices, organisations are well positioned to respond in good time to demands from stakeholders regarding environmental issues. In a study by Acquah. (2024), the scholar posits that, organisations see environmental practice as a threat to their overall profitability due to the huge investment required in the implementation of technology as well as uncertainty and long-term maturity associated with green investments. Again, Acquah (2024) in studying the link between green human resource management practices, green supply chain management practices and performance suggested that, adding environmental philosophy into human resources is critical to the adoption of advanced green practices as corroborated by (Sarkis et al., 2010; Graves et al., 2013) and reduces the challenges of adopting green supply chain management practices (GSCMPS) (Jabbour & De Sousa Jabbour, 2016) to ensure the achievement of sustainability goals. The adoption and implementation of these environmental practices in Ghana is regulated by the Environmental Protection Agency (EPA). The agency ensures that, organisations desirous of investing in Ghana first submit their environmental practice and mitigation plan to the authority for vetting before a permit is given.

The EPA is the main body responsible for overseeing environmental quality and sustainability issues in Ghana and at the same time has the power to close down, fine and sue organisations in the event that they become non-compliant (Famiyeh et al., 2018). Therefore, the implementation of these regulations has meant that, some organisations adopt environmental management practices to enable them to evade legal battles, fines and the closure of their facilities without necessary incorporating same into their

overall strategy. Others, however, take steps to include green practices such as green human resources management practice (GHRMPS) and green supply chain management practices (GSCMPS) to ensure they meet environmental requirements of both local and international markets (Agyabeng-Mensah et al.,2020). Considering the increased impact of organisational practices on the environment, civil society and other pressure groups are demanding that, organisations incorporate environmental practice into their operations while striving to increase the wealth of their various shareholders. In a study by (Agyabeng-Mensah et al., 2020) it was found that, Ghana is one of the leading economies in Africa where logistics activities of manufacturing firms are seen as a potential threat to the environment and human life as a result of urbanization and industrialisation (Afum et al., 2020; Agyabeng-Mensah et al., 2020). However, in response to pressure from advocacy groups, companies are starting to implement green logistics practices to help them lessen the negative impacts of their operations on the environment, as well as the general public's safety and health (Agyabeng-Mensah et al., 2020; Famiyeh et al., 2018). Studies into the area of green logistics practice suggest that the introduction of these practices leads to the resolution of environmental, social and economic problems created through supply chain activities (Halldorsson & Kovacs, 2010; Agyabeng-Mensah et al., 2020). Despite these benefits of adopting green logistics practices, prior studies have pointed to the fact that, most organisations are confronted with challenges linked to the implementation of green supply chain practices such as green logistic management practices (GLMP) causing them not to realise the full benefits of such practices (Kirchoff et al., 2016; Cousins et al., 2019).

Though extant literature on green marketing practices has shown a direct impact on the performance of organisations (Khan et al.,2019), a study by Agyabeng-Mensah et al. (2020) and Baah et al. (2020) show a contrary view. This shows the inconclusive nature of the role of green practice within organisations. Bag and Gupta (2020) in their study also opined that green human capital availability has a direct positive influence on reverse logistics. Whereas Karaman et al. (2020) in examining the relationship between green logistic practice (GLPs) and sustainability reporting, found an insignificant relationship between them. In a related study, Karia. (2020) in examining the role of GLPs in

sustainable business models, discovered a positive relationship between the variables. Similarly, Baah et al. (2020) in assessing the link between GLPs, corporate reputation, and financial performance, found that GLPs have a direct significant influence on financial performance and environmental reputation and an insignificant influence on social reputation. Agyabeng-Mensah et al. (2020) on the other hand explored the relationship between GLPs and sustainable performance and found that GLPs had a direct, significant, positive influence on environmental performance but significant, indirect effect on market, social and financial performances (Hutomo et al., 2018). Green logistic practices are integral to achieving competitive advantage and so organisations that maintain a proactive or reactive environmental strategy are in a position to maintain and retain their customer base ahead of competition.

The adoption of green logistic practices by organisations by way of the incorporation of the same into their environmental strategy is influenced by pressure from green consumers, green enthusiasts, and the government, leading to the adoption of GLPs (Baah et al., 2020; Kitsis & Chen, 2021). Organisations that adopt sustainable practices as GLPs are likely to meet the requirements of green consumers (Baah et al., 2020; Ritter et al., 2015) leading to improved green competitiveness. Organisations that adopt green transport and green distribution, which are both green logistics practices, can reduce hazardous gases emitted through logistics activities to reduce environmental impact, Zhang & Watson IV (2020). Agyabeng-Mensah et al. (2020a, b) however indicated that green logistic practices (GLPs) such as logistics optimisation and green warehousing improve the welfare and safety of society.

According to Rao & Holt (2005) environmental practices in the supply chain reduce environmentally hazardous waste, solid/liquid waste and air pollution, save costs associated with waste disposal and breach of environmental regulation; improve resource utilisation; and enhance economic or financial performance. Agyabeng-Mensah et al. (2021) further suggest that the adoption of environmentally friendly practices is seen as a potential factor for improving the competitiveness and financial performance of an organisation. Agyabeng-Mensah et al. (2020) again found that green practices result

not only in the achievement of substantial cost savings but also help exploit new market opportunities and improve market share and sales, leading to greater profit margins.

2.5. Context Justification

The food and beverage industry, which forms part of the larger manufacturing sector, is one of the fast-growing industries in Ghana. Its contribution to the manufacturing sector cannot be overemphasised owing to its contribution to GDP and employment. However, the beverage sector has equally played a part in the environmental problems facing the country as it is noted among other things, to have contributed to plastic waste pollution, excessive usage of water, high energy consumption and carbon emissions resulting from its production processes (Afum et al., 2020). These concerns make the industry an important case in measuring non-financial organisational performance. To buttress the above points, a report by the United Nations Environmental Protection (UNEP, 2013) revealed that, between the years 2008 to 2011, the contribution of the manufacturing sector to gross domestic products (GDP) was approximately 1.7%. However, the cost of the sector to GDP was reported as 10% and attributed to the negative impact of its operations on the environment, which has in recent times become a source of concern, particularly so when the GDP gains are eroded by its negative consequences on the natural environment.

The recent attention given to the manufacturing industry and by extension the beverage sector can again be partly attributed to their negative activities such as the discharge of organic and inorganic wastes like acids or toxic organic chemicals into the environment especially into water bodies (Bour, 2019). Apart from reports by the (UNEP, 2013), the Global Environmental Outlook (GEO- 4) report also indicated that industrial activities including manufacturing are responsible for the increase in greenhouse gases (GHGs) which has increased the world's temperature by 0.74%. With these

revelations, organisations must begin to employ green marketing orientation to reduce or mitigate the adverse effects of their manufacturing practices on the environment. It is for this reason that the current study on green marketing orientation dimensions and organisational performance in the manufacturing sector of Ghana is crucial. Therefore, the development of green marketing orientation to achieve organisational performance in the beverage sector of the manufacturing industry is a distinctive process, marked by several unique characteristics. Unlike the other sectors of the manufacturing industry, the beverage sector is unique in the way it contributes to greenhouse gases and the excessive utilisation of both water and energy in production processes. This uniqueness makes the sector an important unit of measurement in this study. In recent times, however, the sector recorded an increase in demand and has attracted a lot of players into the industry who are competing to gain market share above their competitors.

This situation has resulted in an unprecedented expansion in the production capacity of these organisations, which for example, has resulted in an increase in the amount of waste produced. Considering the poor disposal culture in the Ghanaian setting, this has resulted in pollution resulting from the inappropriate disposal of the plastics, which are a by-product of the beverage sector. Organisations should therefore rethink their disposal strategy and rather implement green marketing orientation strategies that will help to mitigate the negative effects. The uniqueness of adopting green marketing orientation lies in its ability to promote recycling, encourage responsible consumption, use of alternative energy sources like renewable energy, and reducing waste.

To achieve an adherence to efficient energy usage, water management and a reduction in greenhouse gases by manufacturing organisations, it is imperative that, organisations adopt technologies that would help to make their operations more efficient and helps to mitigate or minimise the organisation's use of energy, water and emission of greenhouse gases into the environment. Apart from adopting technology, the organisations must also implement green marketing orientation that goes to affect the social and ecological well-being of communities they operate in. It is for this reason that the study seeks to investigate the relationship between the mediating role of technology adoption on organisational

performance of the manufacturing sector and also examine the moderating role of an organisation's mind-set concerning social and ecological considerations, and how that would impact organisational performance. Apart from organisational efforts at implementing green initiatives, several other stakeholders can compel them to take initiative or begin to think about their actions on the environment. Therefore, a strong collaboration is necessary to foster a lasting relationship with these stakeholders whose actions can have a negative effect on organisational performance. Stakeholder collaboration is integral to the performance of the manufacturing sector since the sector has a multitude of stakeholders, including governments, local communities, and environmental pressure groups. To this end, creating this collaboration with the various stakeholders would foster relationships that allow the organisations to meet environmental requirements that meet the needs of the society, leading to environmental protection and social welfare.

2.6 Chapter Summary

Because of its contribution to environmental degradation, the manufacturing industry in Ghana presents an opportunity to investigate how the implementation of green marketing orientation impacts environmental performance. The chapter began with an overview of the manufacturing and food and beverage sector and its importance to the study on green marketing orientation dimensions on performance. This chapter further brings to focus the relevance of the manufacturing sector, especially the food and beverage sector to the study. It also highlights the role food and beverage manufacturing organisations have played in environment related injustice like carbon emissions, waste generation and high energy consumption within the environment.

CHAPTER THREE

LITERATURE REVIEW

3.0 Chapter Overview

The introductory chapter underscored how the application of green marketing orientation dimensions has become an imperative for many organisations owing to the increasing attention customers now pay to issues related to the health of the environment and its preservation (Tabavar et al., 2021). The chapter also notes that even as marketers strive to integrate customers' concerns about the environment into their production and organisational strategies (Polonsky, 2011), the evidence in the literature under review suggests that traditional marketing continues to place more emphasis on meeting customers' taste and demand over their social and environmental well-being (Parvatiyar & Sheth., 2023). To what extent then, are companies able to effectively resolve the tension between customers' concerns about the environment, their performance and profit margins in their marketing strategies? This chapter thus provides sights from extant literature in green marketing orientation that serves to address the interface between green marketing orientation dimensions and organisational performance. It begins by outlining the brief history of Green Marketing and the resulting debates in the field to help situate the discussion on the link between environmental concerns, sustainability and organisational performance. It then examines the trends in the field of sustainability in business practice and how companies have responded to the shifting emphasis on environmental sustainability within the marketing industry. The last two sections examine the importance and challenges of green marketing which are anchored by the following variables that form the foundation of this study namely, Strategic green marketing orientation (SGMO), Tactical green marketing orientation (TGMO), Operational green marketing orientation (OGMO) acting as independent variables and Technology adoption (TA), acting as a mediating variable while social and ecological thought (SET) acts as a moderating variable and finally organisational performance (OP) as the outcome variable. This is necessary to frame the analysis of the empirical data in the subsequent chapters.

3.1 From Ecological Marketing to Green Marketing

Green marketing, as defined by the American Marketing Association (2016), refers to the promotion of products that are recognized as environmentally safe. Since its emergence in the 1980s, green marketing has undergone a significant transformation and has become a crucial business strategy enabling companies to gain a competitive edge within their industries (Borah et al., 2023). This realization has resulted in marketing managers being forced to adapt to shifting market demands through green marketing orientation due to consumers' increased awareness of environmental issues (Arseculeratne & Yazdanifard, 2014; Ismail et al., 2023; Reddy et al., 2023; Borah et al., 2023). Businesses have thus begun to modify their operations, goods, and marketing strategies to accommodate consumers' increasing preference for environmentally friendly products (Reddy et al., 2023). In the context of the environment, the green movement has become a major force worldwide (Bloomfield et al., 2020; Tu et al., 2013) forcing organisations to adapt to manufacturing practices that do not harm the environment. The field of green marketing traces its origins to the late 1980s and early 1990s, when two influential figures, Jacquelyn Ottman from the United States and Ken Peattie from the United Kingdom, made significant contributions to the field. Prior to green marketing, however, ecological marketing was first recognized by the American Marketing Association (AMA) in 1975 when they hosted a workshop on the subject. This led to the release of the first book on the subject, "Ecological Marketing" (Katrandjiev, 2016). In its initial stages, ecological marketing sought to address environmental issues but as waste and pollution concerns increased, the emphasis shifted over time to creating novel products and applying clean technology. Since then, sustainable or green marketing has emerged as an evolution from ecological marketing (Bhattacharyya, 2023). As a result, the need for green products and services has become more and more in demand owing to the consciousness from consumers and business leaders. Green marketing orientation is thus a comprehensive marketing strategy that guarantees that products are produced, marketed, consumed, and disposed of in a way that does not adversely impact the environment (Nygaard, 2024). Increased knowledge of the negative effects of pollution, non-biodegradable waste, and the effect of global warming is what has caused this

shift (Mishra & Sharma, 2014) in consciousness and a desire for greener approaches to marketing. Therefore, it is imperative for organisations, if they are to enjoy the benefits from an enhanced performance to consider the implementation of strategic green orientation, tactical green orientation and operational green orientation strategies within their overall organisational strategy (Vilkaite-Vaitone & Skackauskiene, 2019).

3.2 Green Marketing: Scope and Theoretical Debates

In discussing the concept of green marketing orientation, this study reviewed existing literature in the area of green marketing and green marketing orientation dimensions being implemented by organisations in their quest to remain competitive in an overly conscious green market (Sharma, 2021). Delving into the area of green marketing orientation played a critical part in bringing meaning to this study as it formed the basis in the quest to throw light on the relationship between green marketing orientation dimensions and organisational performance. Green marketing orientation has no universally recognized definition; instead, definitions tend to differ depending on the philosophy of the researcher/s. Green marketing orientation is considered as the incorporation of environmental considerations into marketing operations, including production, distribution and logistics, advertising and packaging, and marketing communications (Dahlstrom, 2011; Ottman, 2011). Other scholars also state that green marketing refers to the strategies, tactics as well as operational strategies used by an organization to meet its goals both strategic and financial while lessening its negative environmental effects (Leonidou et al., 2013). The use of these strategic, tactical and operational orientations represents the main green marketing orientation dimensions that are used in this study to test their impact on organisational performance. The phrase "green marketing" was first used in 1993 by McDaniel and Rylander to refer to the efforts of marketers to create consumer strategies that are environmentally accepted. According to Amoako et al., (2022) and Polonsky et al., (1997, p. 2), green marketing orientation is “all activities designed to generate and facilitate exchanges intended to satisfy human needs or wants” while minimizing the detrimental impact on the natural environment. The phrase "recyclable," "ozone friendly,"

"environmentally friendly," and "cruelty free" are all applicable when discussing the marketing of green products and services to consumers based on a green marketing orientation (Yilderm, 2014). In support of this assertion, Yilderm (2014) defines green marketing as a company's initiatives to develop, promote, and recycle goods in response to environmental pressure. On their part, Chen and Chai (2010) defined green marketing as the steps taken by companies that are concerned with environmental issues to satisfy customers and the community by providing environmentally friendly goods or services. Welford (2000), cited by Chen & Chai (2010), defines green marketing orientation as the "management process responsible for profitably and sustainably recognizing, anticipating, and fulfilling the requirements of consumers and society". Products that are planned and produced to have a lower environmental impact are referred to as environmentally friendly goods or green marketing components (Chitra, 2007). Green marketing is a collection of practices that includes tweaking the production process, changing product lines, enhancing packaging, and altering advertising (Diglel & Yazdanifard, 2014). It appears that the premise behind green marketing is that prospective consumers will think positively of a product or service's "greenness" and make their choices accordingly (Saini, 2013). In contrast to these definitions, the practice of some marketers portraying their products as green when they are not is known as "green washing." Prakash (2002) states that there is a significant correlation between the fields of public policy, marketing, and the environment and lists additional terms that have been used to characterize this relationship, including "greener marketing" (Charter & Polonsky, 2017) and "environmental marketing" (Coddington, 1993). Additionally, Fuller & Gillett (1999) employed the term sustainable marketing, whereas Fisk (1974) used the term ecological marketing to explain this relationship.

Prakash (2002) on the other hand calls this relationship "green marketing" and defines it as a "practice of advertising products by making environmental claims about their features or about the practices and policies of the companies that manufacture or sell them". Polonsky (1994), however, contends that the term "green marketing" refers to a broad range of actions, such as modifying the product, altering the production process, changing the packaging, and altering advertising. The concept of green marketing

orientation can further be categorized into green products and green consumers. A green product, according to Diglel & Yazdanifard (2014), is produced locally, uses packaging composed of recycled materials, has minimal negative environmental effects, is produced in an environmentally friendly way, and conserves natural resources. Ottman et al. (2006) states that emphasizing the advantages to customers is the first rule of both traditional and green marketing practice and goes on to outline five (5) guidelines for green marketing organisations to adhere to: (1) Raise consumer awareness and concern about the environmental issues that your product addresses, (2) Make consumers feel that using your product will make a difference in addressing those environmental issues, (3) Build credibility by ensuring that consumers believe your claims about the environmental benefits of your product, (4) Assure consumers that your product performs as well as, or better than, non-green alternatives, (5) Ensure that consumers can afford any price premiums associated with your green product. Following these rules, companies can improve their products, enhance their marketability, strengthen overall performance, and potentially drive innovation. Several studies have shown that consumers favour green products and think well of businesses that use green practices (Assaker, 2020; Jabeen et al., 2023). In a related study, Rayapura (2014) cites a global Nielsen report showing that 55% of online consumers globally, surveyed in sixty countries, indicated their readiness to spend more for goods and services from corporations who are deemed to be implementing green practices. The Nielsen study indicates that consumers are devoted to businesses that positively affect the environment and society. Market research indicates that customers prefer environmentally friendly products (Campher, 2013; Dhiman, 2024; Kamboj et al., 2023; Reddy et al., 2023). Green products, in the opinion of (Ottman & Mallen, 2014; Yagoub & Abdelaleem, 2024) are safer, higher-quality organic products that also help preserve the environment. Manget et al, (2009) discovered that consumers place a high value on the advantages of environmentally friendly products, such as their increased freshness and flavour, their assurance of safety and well-being, and their capacity to reduce energy usage. Ottman (1993) on the other hand has defined green consumers as those who sincerely seek out and support products and services that fulfil their needs while having less adverse impact on the environment. Furthermore, Kassaye (2001) noted

that the demand for green energy in niche markets has been fuelled by the presence of environmentally conscious consumers who purchase food products packaged with recycled materials. Environmentally conscious consumers would rather conduct "green transactions" (Hung & Chang, 2024; Muflih et al., 2023; Peattie, 2010). Several surveys indicate that European consumers are more inclined to spend extra for products considered green (Ghaffar et al., 2023; Shehawy et al., 2024; Vecchio et al., 2023).

Due to customer concerns about the impact of an organization's practices and their resultant effect on the environment, ninety-two (92) percent of European multinational corporations have put environmental protection policies in place (Peattie & Crane, 2005). This is because consumers are becoming more socially and environmentally conscious (Lavuri et al., 2023; Reddy et al., 2023). Supporting this is the claim made by Kautish et al. (2024), who posit that consumers are now more conscious of the effects of their personal consumption choices on the wider community. Additionally, customers are encouraging businesses to adopt green strategies by encouraging them to gradually engage in environmentally friendly behavior (Lopes et al., 2023).

According to Peattie (2001), it is possible to influence consumer behavior by highlighting the relative advantages of environmentally friendly products in comparison to those that have negative environmental effects.

3.3 Green Marketing Strategies

The concept of green marketing orientation has been defined by Polonsky (2011) as “all activities designed to create and facilitate exchanges to meet human needs and wants with the least harmful and destructive effects on the environment” with an emphasis on less damage to the environment. Mahmoud (2019) opined that air pollution, the emission of greenhouse gases, and ecological imbalances, are the main environmental problems facing the world today. In their paper, they further propose that apart from these environmental issues, human activity also plays a part in the destruction of the environment. Therefore, companies that fail to adopt and implement innovative green marketing strategies will find

it challenging to compete in the dynamic global marketplace. Firms that fail to implement innovative green strategies may be doing so at the peril of their existence as they will be perceived as not being sensitive to the needs of the natural environment (Mukonza & Swarts, 2020). The study of green marketing strategies can be classified into two approaches: Defensive and Assertive strategies (McDaniel & Rylander, 1993). These approaches reflect the level of commitment and proactive engagement of companies in addressing environmental concerns. Companies adopting a defensive approach to green marketing do the minimum required to meet environmental regulations imposed by the government. Their primary goal is to avoid penalties and negative consequences rather than actively pursuing environmental sustainability. By complying with the minimum standards, these companies aim to mitigate potential risks but may not go beyond the basic requirements (McDaniel & Rylander, 1993). According to Livas (2021), companies that take a defensive approach to green marketing are unlikely to experience significant market acceptance or gain a competitive advantage based on their environmental efforts. This defensive strategy is more focused on avoiding negative consequences rather than leveraging environmental sustainability as a strategic opportunity. In contrast, an assertive approach to green marketing involves companies actively embracing environmental issues and incorporating them into their strategic marketing management process. These companies go beyond minimum compliance and proactively develop strategies targeting environmentally conscious consumers (Galbreath et al., 2023).

By adopting an assertive approach, companies seek to gain a competitive advantage based on their environmental initiatives. They understand the relevance of addressing environmental problems and integrating environmental considerations throughout their manufacturing processes. With the help of this strategy, businesses can stand out from competition, draw on eco-aware customers, and develop a favourable reputation for their social responsibility and sustainability (McDaniel & Rylander, 1993).

Overall, the defensive approach to green marketing focuses on meeting minimum requirements, while the assertive approach involves proactive engagement and strategic integration of environmental

concerns. Apart from the green marketing strategies as espoused by (McDaniels & Rylander, 1993), Ginsberg & Bloom (2004) based on their analysis of the green consumer segment and their capacity to set themselves apart from the green dimension, offer four alternative green marketing strategies that businesses can implement. These include lean green, defensive green, shaded green, and extreme green. The choice of strategy depends on the assessment of green consumer segment's significance, the potential for revenue improvement, the company's ability to differentiate on the green dimension, and the competitive landscape within the industry. These strategies guide companies in determining the level of emphasis they should place on their greenness as a differentiating factor in their marketing activities.

3.3.1 Lean Green

The Lean Green strategy is characterized by companies that prioritize being good corporate citizens by implementing environmentally friendly practices. These organisations, however, do not actively market or publicize their green initiatives (Ginsberg & Bloom, 2004). Instead, these companies focus on reducing costs and improving efficiencies through their environmentally friendly activities, aiming to create a competitive advantage based on lower costs rather than emphasizing their greenness (Singh et al., 2021). Ahmad et al. (2020) argue that a lean green strategy is a product-based strategy. Lean Green companies comply with rules and regulations related to the environment and sustainability but do not expect significant financial gains from targeting green market segments (Manikas et al., 2021). Organisations that implement this strategy are wary of touting their environmentally friendly credentials and the quality of their products because they worry about being held to a higher standard, failing to live up to their promises, and failing to set themselves apart from rivals (Ginsberg and Bloom, 2004). Instead of linking their environmental efforts directly to the company's brands, Lean Green companies prefer to tie their green practices to a single brand to reduce the possibility of being viewed as a purely green enterprise (Ginsberg & Bloom, 2004). By doing so, they can limit the association of

being a green company to a specific product or brand while maintaining flexibility in their marketing strategies for other products.

3.3.2 Defensive Green

Companies use the Defensive Green strategy as a safety precaution, in reaction to a crisis, or in response to actions of competitors (Ginsberg & Bloom, 2004). These businesses are aware of the value and profitability of the green market segments and know they cannot afford to annoy these customers. To improve their brand image and lessen possible harm, they implement a defensive green strategy (Comyns et al., 2023). Ahmad et al. (2020) revealed that, one such green marketing tactic that businesses employ is the defensive strategy to avoid pressure and penalties from government and other environmental pressure groups. According to Ahmad et al. (2020), this tactic is also regarded as a situational one that organisations employ to deal with outside pressure. However, the Defensive Green strategy does not allow companies to differentiate themselves significantly from competitors based on their greenness. Although their environmental initiatives may be sincere, their promotion and publicity are usually sporadic and minimal (Ginsberg & Bloom, 2004). Businesses that adopt a defensive strategy might sponsor smaller-scale eco-friendly events and initiatives, for example, according to Ginsberg & Bloom (2004). These steps are taken to shield their environmental advertising claims from possible disputes from competitors, regulators, or activists. When a business recognizes the value of being green but cannot gain a sustained competitive advantage from its green efforts alone, it should adopt a defensive green strategy (Ginsberg & Bloom, 2004).

3.3.3 Shaded Green

Businesses that embrace system-wide, long-term, environmentally friendly procedures that demand a large financial and non-financial commitment are those that best represent the Shaded Green approach (Ginsberg & Bloom, 2004). Based on Baierle et al. (2020) analysis, these businesses see green initiatives as a chance to develop novel products and technologies that meet consumer demands and

provide a competitive edge. In order to capitalize on other aspects of their business, Shaded Green companies emphasize other qualities, even though they have the capacity and ability to set themselves apart solely on their greenness. Usually, the direct, palpable advantages offered to clients are these characteristics. The environmental benefits of Shaded Green products are typically promoted as a secondary factor when sold through mainstream channels (Ginsberg & Bloom, 2004). Promotions that help customers save on recurring expenses like energy, fuel, and electricity work best, according to Ginsberg & Bloom (2004). Shaded green businesses are able to draw on clients outside of the green consumer segment by highlighting the economies of scale. The Shaded Green strategy allows companies to integrate green marketing practices into their operations and product development while focusing on promoting tangible benefits that appeal to a broader range of customers. By positioning their products as cost-saving solutions, they can leverage the environmental benefits as a secondary selling point. Again, according to Ahmad et al. (2020), firms that implement Shaded Green strategy are usually focused on product characteristics and the associated environmental benefits. The shaded green strategy, rather than differentiating the product in terms of the environmental benefits it brings to the consumer, focuses attention on the attributes of the product (Ginsberg & Bloom, 2004). The implication being that organisations who adhere to this strategy would more often than not, see greening strategy as a corporate rather than an operational strategy (Zwerg-Villegas, 2012).

3.3.4 Extreme Green

Businesses that fully embrace holistic ideas and values about environmental issues and responsibility are those that best represent the Extreme Green strategy (Ginsberg & Bloom, 2004). The business and product life-cycle processes of these companies incorporate environmental considerations into every operation. According to Pan et al. (2023), those organisations implement, life-cycle pricing strategies, total-quality environmental management strategies, and environmentally conscious manufacturing practices. In most cases, Extreme Green companies have been driven by environmental consciousness from their inception (Brunner & Norouzi, 2021). Environmental issues are deeply ingrained in their corporate culture and serve as a major driving force within the company. By targeting specific customer

segments, these companies can effectively communicate their commitment to environmental sustainability and attract consumers who prioritize green products and practices. Extreme Green strategy sets companies apart as leaders in sustainability, emphasizing their comprehensive approach to environmental responsibility. These companies go beyond minimal compliance with regulations and actively seek to create positive environmental impacts throughout their operations and product life cycles. Businesses employing defensive tactics emphasize both product and promotion, whereas lean strategies emphasize the product. Businesses that employ shaded strategies focus on product, price, and promotion, whereas those that employ extreme strategies focus on all four Ps (product, place, promotion, and price). Other scholars in their study of the concept of green marketing strategies have conceptualized additional strategies. (Cronin et al., 2011) conceptualized three green marketing strategies as green innovation, greening the process and green alliance. These will be further discussed below.

3.3.5 Green Innovation

Cronin et al., (2011) defined green innovation to mean "innovative products and services that meet customers' requirements and protect the environment". They again defined green innovation to mean the "development of new and innovative green products". The thinking is that the development of these innovative products and services would send a favourable signal to the consuming public that, the organisation is green-oriented and thus gain a competitive advantage.

3.3.6 Firm Greening

Furthermore, Cronin et al. (2011) defined firm greening to "mean management commitment to environmental responsibility, green procedures as well as green supply chain management (GSCM)". Greening the process strategy on the other hand deals with the environmental aspects within the organization Khan et al. (2023).

3.3.7 Green Alliances

This strategy means partnerships agreed with other firms who share similar concerns for the environment (Lopes et al., 2023). The adoption of an appropriate green marketing orientation strategy within the manufacturing sector mostly requires that, such companies investigate the needs and requirements of the consumers. In recent times however, issues pertaining to the natural environment have come into focus, thus compelling manufacturing companies to form alliances in their quest to take issues of the natural environment seriously (Zhang et al., 2019). Building on the concept of green strategy, many researchers, such as Avci et al. (2011), Laforet (2008), Slater et al. (2010), Rajagopalan (1997) and Ramaswamy et al. (1994) have further sought to conceptualize green marketing strategy into four, defender strategy, prospectors, analysers and reactors. However, to effectively answer the research questions, this study adopted green marketing orientation dimensions conceptualized as Strategic green marketing orientation, Tactical green marketing orientation and Operational green marketing orientation which are institutional-based strategies and proposed by (Chamorro & Bañegil, 2006; Gazquez-Abad et al., 2011; Papadas et al., 2017) as opposed to green marketing strategies. Proponents of these green marketing orientation dimensions have described them as the three pillars of green marketing. The ensuing paragraphs discuss in detail, the green marketing orientation dimensions as adopted for this study and how it applies to organisational performance.

3.4 Strategic Green Marketing Orientation

This Strategic green marketing orientation explains the extent to which organisations integrate environmental imperatives into the overall corporate strategy (Papadas et al., 2017, 240). At the strategic level, strategic green marketing orientation involves an analysis of the growth potential of the green market, its contributions towards satisfying the needs of consumers, challenges of green marketing and the assessment of consumer behaviour regarding purchases of green products (Gazquez-Abad et al., 2011). Apart from these constituents, strategic green marketing covers goals, marketing opportunities, marketing budget, clear identification of the target market, etc. Strategic green marketing

involves market environmental actions that are oriented to process and environmental actions that are oriented to the market. Process-oriented market environmental actions are related to internal processes in the company, such as green logistics, eco-design, and eco-packaging whereas market-oriented environmental actions are initiatives in green advertising and eco-labelling (Papadas et al., 2017).

According to Shi and Yang (2018), the implementation of green marketing strategy involves (1) definition of target market, (2) promotion of green actions to the target markets. Papadas et al. (2017) and Papadas et al. (2019), further posit that, SGMO is defined as "the extent to which an organisation responds to environmental imperatives in its long-term strategic development goals and strategic marketing communication and how they can easily be perceived by key stakeholders, including consumers". An understanding of strategic green marketing orientation and its effect on organisational performance through the lens of supply chain management can lead to efficiency within the organization and improve processes based on the environmental structure (Jalili et al., 2024). Though evidence abounds in literature about the interactive effect of strategic green orientation on organisational performance (e.g. Courrent et al., 2018; Gatignon & Xuereb, 1997; Jami Pour & Asarian, 2019; Wiklund & Shepherd, 2003), some scholars have also found interest in studying the role of strategic orientation as a single construct and have documented its positive impact on firm performance (Brouthers et al., 2015; Kumar et al., 2011; Slater & Narver, 1995). Apart from these results, there is equally empirical evidence that suggests that firms relying solely on a single dimension are more likely to face failure in the long run (Kumar et al., 2011). Additionally, several authors, through empirical studies, have confirmed the role of SGMO on organisational performance (Gatignon & Xuereb, 1997; Hakala, 2011; Venkatraman, 1989). According to Papadas et al. (2017), SGMO are long term in nature, TGMO short term in nature while OGMO involve the implementation of the concept in the production processes. Strategic GMO therefore refers to the long-term top management actions and policies, for achieving proactive environmental strategies (Aragon-Correa, 1998). Being environmentally proactive therefore, requires that the organization must go beyond meeting legal requirements to being conscious of the effects of their operations on the environment (Borah et al., 2023). Additionally, SGMO requires

organisations to inculcate issues of the societal and ecological interest in their overall corporate strategy. Zhang et al. (2018) referred to this as the triple bottom line of economic, social and environmental performances.

A green marketing strategy must convey at all times greenness in all aspects of the marketing mix from product development to launch (Arseculeratne & Yazdanifard, 2014). A study by Dauda et al. (2024) investigated green marketing orientation and its effect on Performance of Small and Medium Business Enterprises (SMEs) in Nigeria, conceptualized green marketing orientation as green product strategy, green price strategy, green distribution strategy and green promotion strategy. In a related study on strategic orientation (SO), Ed-Dafali et al. (2023) used the RBV theory as a guide to the study on Strategic orientations, organisational ambidexterity, and sustainable competitive advantage: Mediating role of industry 4.0 readiness in emerging markets. In that study, they adopted strategic orientations (SO) and operationalized it as an intangible resource in the form of processes that determine an organization's competitive advantage. SO has thus been said to be a critical pillar of strategic management (Covin & Wales, 2019). Strategic orientation in strategic management is seen as a firm's philosophy, which speaks to how business ought to be conducted through some deeply rooted set of values and beliefs that guides an organization's quest to achieve superior performance (Gatignon & Xuereb, 1997). Evidence from literature indicates that SO guides firms to create proper behaviours, especially for market entry and practices, and also on how to meet the needs of both existing and potential customers in the market (Zhou et al., 2005). The role of SO in organisational management has led to the concept being considered a powerful predictor of business efficiency (Sahi et al., 2020). Strategy on the other hand may potentially have an impact on an organization's investments, activities, market relationships, and eventually performance (Lutfi et al., 2022). Strategy again serves as a framework used by organisations to effectively allocate resources and also determine fresh prospects to offer customers appropriate products or services (Lutfi et al., 2022). Therefore, the strategic directives exploited by organisations to create an ideal environment for proper action leading to the

long-term viability and efficiency of a company's operations reflect the strategic orientation of an organization (Chahal et al., 2016; Dang-Van et al., 2023).

On their part, Cook, (2022) has opined that strategic orientation largely depends on an organization's ability to respond to internal and external constraints and that strategic management would differ from one organization to the other and in terms of the way an organization adapts to its environment (Obeidat, 2016; Kumar et al., 2012). Several authors, including Obeidat (2016) and Mu and Di Benedetto (2011) have conceptualized strategic orientation with a focus on the market, technical advancements, entrepreneurship, and networking. Market orientation, quality orientation, entrepreneurial orientation, technology orientation, innovation orientation, and productivity orientation are only a few of these orientations. The elements of strategic orientation have been summed up by Hakala (2011) as follows: market orientation, technological orientation, entrepreneurial orientation. On the other hand (Venkatraman, 1989) opined that six main dimensions are used to measure a firm's strategic orientation and named them as aggressiveness, analysis, defensiveness, futurity, proactiveness, and riskiness. (Amoako et al., 2023), in their study, "A conceptual framework on finding the nexus between sustainability and desired outcomes for smart cities the moderating role of green leadership in the tourism and hospitality industry" revealed that, strategic green marketing orientation within an organization places premium on corporate environmental strategy (Banerjee, 2002), proactive environmental strategies (Aragon-Correa, 1998) and external environmental stakeholders (Banerjee, 2002). They went further to posit that green marketing strategies may include collaboration and partnerships with environmental advocacy organisations. A related study by (Mukonza et al., 2020) posited that strategic green marketing orientation perspective covers issues related to, green consumer behavior, consumer buying behavior for green products, and green-integrated marketing communication. Papadas et al. (2017) on their part emphasized environmental imperative in their conceptualization of strategic green marketing orientation by supporting the use of partnerships and collaborations with other organisations to pursue relevant policies related to the environment. Banerjee (2002) on their part also stated the need to embed environmental values within the organization in their

quest to maximize profit. With the introduction of environmental imperatives and value into corporate strategy, there is still need for research that espouses the escalation of consumption which goes contrary to sustainability and green marketing (Crane et al., 2014). This trend has called for the inclusion of the protection of social stakeholders and the natural environment among strategic marketing objectives, thus the consideration of the triple bottom line of economic, social and environmental performance (Stoeckl & Luedicke, 2015). Managers in making business decision would have to first analyse the broad environment (Bhattacharyya, 2020). The analysis of the environment would detail the political, legal, social, economic, ethical, natural, environmental and technological factors (Batista et al., 2021; Kennerley & Neely, 2003) as these factors are integral to the success of the organization and would help managers to shape the firm's strategic initiatives for the long term. To this end, (Gelderman et al.,2021; Kraus et al., 2020; Mukonza et al.,2020; Rehman et al., 2021), posit that, green marketing strategies do not only make firms look good, but their effective implementation of green strategies within organisations leads to improvement in long-term performance. The implementation of green marketing strategy on its own is not enough as authors believe that, the implementation of green strategy together with tactical strategy has the tendency of achieving the desired organisational performance (Ameer et al., 2024; Amoako et al, 2020). To further buttress the above point the authors explained that unless strategy includes a tactical view, it may seek objectives which are practically unachievable, or it may miscalculate the costs and benefits likely to emerge from a particular strategy. This goes to make the point that, the implementation of a green marketing strategy should not be implemented alone but together with green marketing tactic if organisational performance is to be achieved Amoako et al., (2020). This study thus seeks to examine the impact of green orientation dimensions as an integrated construct on organisational performance.

Though there have been studies on this relationship in extant literature, there is still paucity of research in the study of green marketing orientation dimensions and organisational performance using strategic, operational and tactical orientation as an integrated construct. Organisational performance has been

operationalized as an organisation's ability to reduce carbon emissions, water usage, and energy consumption especially in the food and beverage industry in Ghana.

3.4.1 Tactical Green marketing Orientation

Tactical green marketing orientation on the other hand is the extent to which organisations incorporate environmental imperatives into their marketing mix decisions (Khan et al., 2023; Papadas et al., 2017, 240). According to (Gazquez-Abad et al., 2011; Padhy & Vishnoi, 2015; Papadas et al., 2017), tactical strategy alters traditional marketing mix into a green marketing mix. The tactical dimension of green marketing has to address the marketing mix elements (Nguyen-Viet, 2023). Again, performance indicators relating to the tactical green marketing orientation as operationalized in the study can be seen in Table 3.2 in the appendix section. The aphorism "strategy proposes, but tactics disposes" goes to indicate the important role tactics play in the achievement of organisational performance. The relationship between tactics and strategy makes it difficult to distinguish between the two. Just like strategy, the role of green tactic in the achievement of organisational performance is imperative. However, this lack of distinction between the two concepts in most management literature has led to many mistaking the role of the two in the achievement of organisational performance Khalifa, (2021). This apparent confusion between tactics and strategy has also been expressed by Godet (2000).

Owing to this confusion, one sure place to get clarity on the distinction is in military literature where the whole concept of strategy, tactic and operations originated. Thus, many scholars from Clausewitz (2008) to Liddell Hart (2008) to Choudhury et al. (2019), have sought to explain tactic as actions in the battlefield, executed to defeat the enemy. In the context of this study, the explanation as espoused by the scholars means that, for organisations to achieve performance, they must deploy tactics and strategies that are superior to those of the competition. Eccles (1979, p. 12), defines tactics as the immediate employment of forces and weapons to attain strategic objectives; weapons in the context of the study means the deployment of tactical tools aimed at achieving organisational performance.

Freedman (2013, p. 74) on the other hand defines tactics as the art of handling forces in battle or in the immediate presence of the enemy. Tactics are the natural ingredients of strategy (Khalifa, 2021). Tactics in business literature may be fuzzier than strategy since it has not received the same attention as strategy in extant literature, hence the reference to military literature for guidance. If strategy is made up of tactics and if tactics are chosen based on strategy as a way of winning, then the primary role of tactics must be to contribute to gaining and sustaining advantage. Following this, (Khalifa, 2021) defines tactics as the power-creating use of resources to gain a partial advantage, in specific domains, over external actors. This study thus examines the role of tactical green orientation in the achievement of organisational performance within the food and beverage industry in the context of Ghana.

3.4.2 Operational Green marketing Orientation

Operational green marketing orientation, though a short-term measure, is focused on the day-to-day operation of an organization. Traditionally, operational dimension focuses mainly on gaining the attention of the target customers and effectively completing a sale to generate revenue (Keyvani, 2011, p. 7767). Environmental and social values are other benefits that should drive operations of green marketing. According to (Mukonza et al., 2020), operational green marketing orientation issues should ultimately concentrate on green product management, green initiatives in logistics, social responsibility, green washing , green marketing orientations, and firm performance.

Green marketing dimensions include the adoption of internal green marketing orientation within the organization (Amoako et al., 2023). IGMO describes the process of sharing environmental imperatives within the organization with the hope of supporting a comprehensive green corporate culture within the organization (Papadas et al., 2014). Therefore, the effective implementation of IGMO would include areas like environmental education, environmental awareness campaigns (Charter & Polonsky, 2017; McDaniel & Rylander, 1993; Wells et al., 2015) and environmental leadership efforts (Ramus, 2001). To ensure that environmental culture is embedded, managers must ensure the desired culture is

conveyed to all facets of the organization (Geels et al., 2015). This is because, employees require adequate knowledge and skills as well as training on environmental advocacy to ensure proper dissemination of the concept (McDonagh & Prothero, 2014; McDaniel & Rylander, 1993). Internal green marketing orientation (IGMO) entails incorporating issues of the environment throughout the organization with the aim of establishing a culture while ensuring adequate training to ensure the intended culture is embedded within the organization (Charter & Polonsky, 2017; McDaniel & Rylander, 1993; Papadas & Avlonitis, 2014; Wells et al., 2015), and taking on environmental leadership roles (Ramus, 2001). According to (Khalifa, 2021), the operational art (or grand tactics) is the bridge between strategy and tactics.

Table 3.1: Green Marketing Orientations Dimensions

STRATEGIES	PERFORMANCE INDICATORS
Strategic	Environmental concerns are incorporated into strategic planning. Sustainable sourcing practices for materials are prioritized. Reduce negative impact of organization's practice on environment. Implement pollution prevention measures to minimize environmental pollution. Implement product management to ensure environmentally friendly practice. Utilize clean technology to reduce waste and improve the environment. Continually seek feedback and input from stakeholders to improve green strategies.
Tactical	Redesign delivery and production processes to reduce pollution. Reprocesses raw materials and by-products to minimize pollution. Promote and display eco labels and certificates on all products. Marketing campaigns encourage responsible sustainable choices. Promote the use of recycling and proper disposal of our packaging materials Prioritize energy saving measures such as energy efficient equipment or lighting
Operational	Comply with government regulation concerning the environment. Requirement for environmentally friendly products is considered. Good ethical image is promoted throughout our operations. Green innovation technology and knowledge are transferred to reduce external costs.

3.5 Organisational Performance

Organisational performance, also known as business performance, is a well-known and important metric in the larger field of business management research. It is frequently used as the last dependent variable in latent marketing and strategic management studies (Masocha, 2018). The concept is crucial to business because it plays a major role in determining whether business strategies are successful or unsuccessful (Amegbe & Hanu, 2016).

Furthermore, procedures related to an organization's planning and control processes enshrine the importance of organizational performance as the variable (Mustafa et al., 2012). While scholars agree on a definition of organizational performance, there are differences in the ways that latent studies evaluate an organization's performance (Eneizan et al., 2016). As a result of difficulties with conceptual and methodological issues, organizational performance as a construct continues to evolve, particularly on how it is assessed (Amegbe & Hanu, 2016; Masocha, 2018). Organizational performance is measured using two methods: financial and non-financial measurement matrices (Abdelraheem et al., 2022; Eneizan & Wahab, 2016; Nuhu et al, 2022). Among earlier academic works, there has been a noticeable trend toward the predominance of financial performance measures in the assessment of organizational performance (Sardi et al., 2021). Several traditional financial metrics, such as return on equity and return on sales, are considered insufficient in identifying differences in organizational performance (Masocha, 2018).

Similarly, there is a chance that traditional financial accounting metrics (like earnings per share and return on investment) could send out confusing signals regarding constant innovation and improvement (Eneizan & Wahab, 2016). Similar to this, the idea of organizational performance in marketing literature has traditionally been based on the micro-economic principle of profit maximization (Amegbe & Hanu, 2016). There are therefore concerns about the use of financial metrics to assess an organization's performance since they have a reputation of being outdated, inflexible, and crude when assessing sustainability and environmentally friendly practices (Masocha, 2018). This study highlights the importance of non-financial matrices (such as, an organization's management of its carbon emission, water and energy consumption) as the way to go rather than putting more and more emphasis on the integration of financial measures (Eneizan & Wahab, 2016). The evaluation of organizational performance has undergone significant changes resulting from intensified environmental issues and the increasing pressure from stakeholders (Aguilera-Caracuel & Ortiz-de-Mandojana, 2013).

According to Tang et al. (2018), this has resulted in the development of the notion of environmental performance, which encompasses the environmental impact of an organization's operations as well as its dedication to environmental sustainability. Growing stakeholder awareness of environmental issues, more stringent environmental laws, and an increasing understanding of the strategic importance of environmental performance for corporate success have all influenced trends and environmental performance. However, because of the growing pressure from stakeholders and the escalating environmental issues, the assessment of organizational performance has changed significantly (Aguilera-Caracuel & Ortiz-de-Mandojana, 2013). Tang et al. (2018) opined that as a result, the concept of environmental performance was created, encompassing both an organization's commitment to environmental sustainability and the environmental impact of its operations. To determine how well an organization is performing, current studies have taken the approach of combining financial and non-financial metrics. In this study, however, performance is operationalized as the degree to which the objectives of an organization adhere to environmental norms and regulations, minimizing environmental harm, and contributing to environmental preservation. It involves indicators such as water management, carbon emissions reduction and energy consumption.

Table 3.2: Organizational Performance

ENVIRONMENTAL INDICATORS	PERFORMANCE INDICATORS
Reduce Carbon Emissions	Defined objective to reduce carbon emission in production processes. Set specific targets to reduce carbon emissions. Measures, monitors and reports carbon emissions. Investment in technology to reduce emissions Presence of ISO 14001 certification on environmental and safety compliance
Reduce Water Usage	Ability to minimize water in the production process. Reduce the amount of water consumed per unit of product manufactured. Implement water conservation measures to prevent water wastage. Use water management practices to achieve sustainable objectives. Ability to practice waste segregation in operations. The firm has an internal environmental management system.
Reduce Energy Consumption	Establishment of goals to reduce energy consumption. Establishment of energy efficient technologies and processes to minimize wastage. Investment in renewable energy sources to reduce the reliance on non-renewable energy. Ability to evaluate and update energy management practices. Ability to regularly monitor and analyse energy consumption data to identify areas of improvement.

3.6 Green Marketing Orientation Dimensions and Firm Performance

The concepts relate to the strategies used by organizations to help them meet their set goals and objectives. For this study, the strategies relate to measures that organizations put in place to allow them to minimize the adverse effects of their operations on the environment. Dahlstrom (2011) maintained that every marketing strategy should be directly correlated with its impact on environmental sustainability. Scholars have also found that Firm performance is positively impacted by green

marketing orientation (Al-Surmi et al, 2020; Gachoka et al., 2013; Leonidou et al., 2013a; Mukonza & Swart, 2020; Wang, 2020).

Again, according to (Fraj et al., 2009; Gelderman et al., 2021; Moise et al., 2021), implementing green marketing orientation increases customer satisfaction and loyalty. Therefore, by addressing consumers' concerns about sustainability, green marketing techniques not only improve customer perception but also address their concerns (Fraj et al., 2009). Furthermore, (Hasan & Ali, 2015; Mousa & Othman, 2020; Shahzad et al., 2020), opined that the performance of an organization is impacted by the integration of green marketing orientation into business management procedures. Prior research by Amoako (2020) indicates that the implementation of green marketing orientation leads to an improvement in an organization's profitability by improving marketing performance and cutting expenses. Therefore, companies that adopt a green marketing strategy, improve their financial performance (Mukonza et al., 2020; Punitha & Mohd Rasdi 2013; Shabbir & Wisdom, 2020). Apart from these positive relationships between green marketing orientation dimensions and performance, there are still not many empirical studies that examine the relationship between green marketing orientation dimensions and organizational performance in the context of the food and beverage sector in Ghana and hence the motivation to examine the relationship.

3.7 Green Marketing Tools

Rahbar and Wahid (2011) have identified several green marketing tools that are used to describe green marketing practice. These include eco-label, eco-brand, and environmental advertising. These tools are crucial in determining how customers behave when purchasing eco-friendly products. The American Marketing Association (2023) defines a brand as a name, word, sign, symbol, or design, or a combination thereof, intended to identify products and services of one vendor or group of vendors and to distinguish them from those of a competitor. Analogously, the objective of the Eco-brand is to differentiate a brand based on its positive effects on the environment (Neeraja & Chitra, 2023). A

product might gain distinction from other products and increased visibility among thousands of product variations with the Eco-brand.

A non-green product can easily be discriminated against based on an eco-brand (Zheng et al., 2020). If a product has a high environmental impact and is compatible with a product with a low environmental impact, consumers will seek to purchase the environmentally friendly alternative (Ewe & Tjiptono, 2023; Ketelsen et al., 2020). In a study by Rahbar and Wahid (2011), Malaysian consumers viewed aerosols, household cleaning products, glass-based products, pesticides, and plastics as non-green products due to their significant environmental impact. It follows that products with environmental features that are marketed as eco-branded will likely be well received by consumers. Earlier research done in Western nations suggest that, consumers in Germany and the USA are becoming more environmentally conscious owing to their purchase of eco-branded products like Body Shop and green energy (Chauhan et al., 2023). Promoting brands and conducting marketing research require an understanding of how consumers make purchasing decisions. Consumer behaviour would then shift to include the purchase of ecologically friendly products as a result of the benefits of green brands. According to (Hartmann et al., 2005; Reddy et al., 2023), consumers' comprehension of green brand positioning is what allowed eco-brands to have a positive impact on their purchasing behaviour. Additionally, it was discovered that emotional brand benefits play a crucial role in driving green transactions by influencing consumer behaviour (Bashir et al., 2020; Casidy & Lie, 2023; Cherian & Jacob, 2012). In studying the Ghanaian consumer market as a whole, Braimah (2015) held a contrary view and posits that although Ghanaian consumers are aware of eco-friendly products, they do not take them into account when making purchases decisions. This assertion is contradicted by research on eco-brands that showed that consumers' understanding of green branding is influenced by their awareness (Akram et al., 2024). On the other hand, Eco-label designates the products, indicating whether or not they are eco-friendly (Kumar & Basu, 2023; Mosier, 2023). Eco-labels represent a critical component of green marketing (Huang et al., 2024).

These can be any kind of diagram or paper sheet that are a part of the packaging. As per Delafrooz and Taleghani (2014) and Temple (2020), labels serve two primary purposes: providing information and indicating value. Because they inform consumers about the product's manufacturing process, eco-labels are a great asset to consumers as they help them make informed decisions about what to buy (Gorton et al., 2021; Williams et al., 2023). It therefore makes environmentally friendly products easier for customers to identify (Chaihanchanchai & Anantachart, 2023; Delafrooz & Taleghani, 2014).

In a related study (Kumar & Basu, 2023) opined that shopping habits for green products are influenced by eco-labelling, thus businesses can use eco labels as proof to clients that they have adopted eco-friendly production and delivery methods (Bruce & Laroiya, 2007). Based on Boström and Klintman's (2008) research, producers of eco-labelling schemes have a higher probability of being authorized by independent third parties, such as state or private agencies, to verify whether the producers have complied with the label requirements. According to Michalko (2010), eco-labels have a noteworthy impact on increasing market share due to their affirmative social and ecological effects. They refer to those eco-labels as "winners." The term "green washers" refers to eco-labels that have minimal to no impact on consumers but are nonetheless widely used while "Wallflowers" have positive ecological effects. According to Purohit (2012), "weeds" are eco-labels that are meaningless in every way. Eco-labelling might be a key element in enticing customers to buy environmentally friendly products. Customers may be persuaded to pay more for products with eco-labelling, which highlights extra benefits like consistency, environmental sustainability, non-hazardousness, increased effectiveness, and so forth (Renfro, 2010). Due to consumer awareness of eco-labels, consumers have a more positive attitude and response to green transactions and green marketing, according to research conducted by Rashid (2009) with 526 respondents in Malaysia. However, Leire and Thidell (2005) found that consumers' motivation for making green purchases is unrelated to their awareness of the eco-label.

The United States Environmental Protection Agency (US-EPA) instituted a survey to evaluate the effectiveness of eco-labelling and found that although consumers are aware of eco-labels, they might not always purchase the products or follow the guidelines set forth (Leire & Thidell, 2005). A study by Gorton et al. (2021) again discovered that when eco-labels are present, consumers lose trust. It is unclear whether this mistrust from customers is as a result of them not realizing the full potential of the eco labels, Cherian and Jacob (2012). Similarly, customers believe that eco-labels attract them because they highlight the environmental impact of the product (Cherian & Jacob, 2012; Kumar & Basu, 2023). Regarding environmental advertisement, advertisers are now focusing on using newspapers or the internet to spread the word about their environmentally friendly products and services (Reddy et al., 2023). Environmental advertising is preferred by advertisers due to the global expansion of green movements and consumers' growing interest in environmental issues. The objective is to encourage consumers to buy environmentally safe products. Green advertising initially appeared in the late 1960s in response to public and scientific criticism, consumer activism, and other voices about companies engaging in anti-environmental practices (Easterling et al., 1996). Over time, there has been a decline in green advertising because of deceptive advertising claims, over-exaggeration in the content of advertisements, and consumer confusion over terminology (Polonsky et al., 1997).

Yin and Ma (2009) posit that the sustainable era started in the 2000s when green advertising regained traction as a result of changes in international laws, increased funding from around the world, increased consumer interest, and other factors (Belz & Peattie, 2009). "Green" advertisements (ads) are directed at eco-conscious consumers and other stakeholders and cover environmental protection, eco-friendly content, and substance targeting requirements and preferences (Zinkhan & Carlson, 1995). Oumlil and Balloun (2020) assert that advertising is a major factor influencing consumer attitudes and receptivity to any particular good or service. This assertion was later collaborated by Ooi et al., (2024) and Wu and Long, (2024). Green advertising thus plays a role in translating consumers' perceptions of the worth of environmentally friendly products into actual sales as confirmed in a study by (Bertossi et al., 2023; Zhang et al., 2024).

Conversely, a survey by (Rizqiyana & Wahyono, 2020) found that only about 70% of respondents felt that eco-labelling and green advertising affected them. Additionally, according to the same survey, more than half of the participants did not give the green messages in the advertisements enough thought due to their misuse, which reduced the ads' credibility. The lack of credibility in a green advertisement according to Chan (2004), has three primary causes: (1) the product's manufacturer does not seem to care about the environment (2) the country that supports the product is generally not environmentally friendly (3) or the product's ostensibly eco-friendly features do not live up to the buyers' expectations. Giving consumers only ecological information, in the opinion of Pooley and O'Connor (2000), does not encourage consumers to make green purchases. However, if green advertising features emotionally charged content, consumers might become aware of them (Mas et al., 2024). Since the inception of the concept of green marketing, many organizations have had varied reasons for going green. Ponlonsky (2008) outlined several motivations for companies pursuing green marketing orientation. These include social responsibility, identifying new opportunities, responding to government pressure, addressing cost and profit factors, and maintaining competitive parity. Concerning social responsibility, Vaughan and Koh (2023) noted that companies recognize themselves as members of the wider community and as such, businesses understand the need to balance environmental conservation and profit objectives sustainably. This leads companies to integrate environmental considerations into their corporate culture and decision-making.

Businesses that integrate green marketing into their corporate strategy can have a sustained competitive advantage over those who promote less environmentally friendly products as consumers' concerns about the environment is growing (Wang et al., 2023). Being proactive in adopting green marketing can enhance a company's image by responding to market requirements rather than solely relying on government regulations (Al-dmour et al., 2023). Green marketing is not always helpful, as some businesses may abuse it and use it to influence customers to unfairly increase their market share. Companies have misrepresented the efficacy of their goods or the veracity of their environmentally friendly actions (Hameed et al., 2021). According to Ramakrishna and Rao, (2024), engaging in

misrepresentation of green credentials may result in a decline in market share. Governments also play a crucial role in regulating and protecting consumers against the various marketing activities that may have the potential of affecting the environment (Wang et al., 2024). Polonsky (1994) identifies several ways in which governments can protect consumers and the society as a whole by indicating the following:

(1) Reducing Production of Harmful Goods or By-Products: Governments establish regulations to control and reduce the production of goods or by-products that are harmful to the environment (Thakkar & Paliwal, 2024). These regulations influence the behaviour of organizations by imposing restrictions on the amount of dangerous waste they can produce, (2) Changing Consumer and Industry Behaviour: Governments seek to influence consumer and industry behaviour to promote the use and consumption of less harmful goods (Kumar & Basu, 2023). This can be done through various measures such as providing incentives for environmentally friendly practices or implementing policies that discourage the use of harmful products, (3) Ensuring Consumer Ability to Evaluate Environmental Composition: Governments aim to ensure that consumers have the necessary information to evaluate the environmental composition of goods (Hujran et al., 2023). They may establish regulations that require companies to disclose relevant environmental information about their products. Governmental regulations and initiatives in green marketing help protect consumers from false and misleading claims, allowing them to make more informed decisions (Polonsky, 1994). In some cases, individual states or regions within a country may have stricter rules than the national guidelines, further enhancing consumer protection. By implementing and enforcing these regulations, governments create an environment where companies are incentivized to become environmentally responsible. Competitive pressure on the other hand plays a significant role in influencing companies to modify their strategies in response. When companies observe their competitors promoting their environmental initiatives, they may feel compelled to follow suit in order to maintain their competitiveness (Achmad et al., 2023). Companies may adopt green marketing orientation to address cost or profit related issues.

Environmental considerations can have an impact on a company's performance, affecting both revenues and costs (Doni & Fiameni, 2024).

Businesses can frequently witness an increase in revenue by putting into practice a green marketing orientation strategy (Rahman & Nguyen-Viet, 2023). For instance, customers that place a high value on environmental sustainability might be prepared to pay more for goods and services that are environmentally friendly. A better financial performance may result from this increased demand (Sandberg et al., 2023).

However, stricter environmental standards may also increase manufacturing and non-manufacturing costs for companies (Zhang et al., 2023). Therefore, compliance with regulations and implementing environmentally friendly practices can require investments in technology, equipment, and processes. These additional costs can impact a company's profitability. However, companies that focus on improving their environmental performance can reduce waste, which can lead to cost savings (Wiredu et al., 2024). By implementing more efficient production processes and reducing waste generation, companies can lower the costs associated with waste management and disposal. Furthermore, companies often need to re-examine their production processes especially when the aim is to reduce waste, improve energy utilization and water usage (Amankwah-Amoah, 2024). The re-examination of the production process can result in cost savings and reduce the need for raw materials in the production process. In some cases, companies may explore end-of-pipe solutions, where they find alternative markets or use for their waste materials and use them as inputs in other production processes (Gupta et al., 2023). This approach can contribute to reducing waste and potentially generate additional revenue streams. For example, a company may develop waste reduction technologies and sell them to other companies, or a waste recycling or removal industry may emerge to address the environmental concerns of various businesses (McCauley & Jestratijevic, 2023). These cost and profit considerations can shape the strategies and decisions of companies in their pursuit of environmental sustainability.

3.8 Importance of Green Marketing

Marketing is among management's most crucial decisions. According to Roberts et al. (2014), marketing includes the following: choosing target markets and customers, setting prices, building brands, developing new products, and managing product portfolios. Product, price, place, and promotion (the marketing mix) are the tools used to meet the needs and desires of customers and achieve business objectives. Yan and Yazdanifard (2014) define green marketing as incorporating Porter's marketing mix, which consists of product, price, place, and promotion. Businesses looking to gain a deeper understanding of the needs of both present and potential customers can benefit from using green marketing strategies (Ritter et al., 2015; Tien et al., 2021). Green marketing strategies can impact consumer purchases and assist managers in assessing business needs (Nuseir et al., 2020; Woo, 2021). Therefore, business executives should concentrate on learning about customer demands and lifestyles to create a successful green marketing strategy (Nica, 2013; Tien et al., 2021). In the context of the marketing mix, green marketing is a means to meet customer needs. According to Machová et al., (2022), the notion of green marketing has the potential to transform conventional marketing methods into consumer behaviour thereby allowing marketing professionals to employ tactics to harness organizational knowledge, efficacy, risks, and opportunities to tackle business objectives and concerns. Green and traditional marketing mixes can be differentiated from one another by expanding concepts intended to satisfy pro-environmental and societal needs, which are given more weight in green marketing mixes (De Canio et al., 2024). Environmental issues have an impact on the world community (Fetisov et al., 2024; Pata et al., 2023) resulting in marketers having to integrate these issues into the notion of consumption because the demands of consumers are boundless, just as natural resources are. In meeting the consumption demands of consumers, business executives must endeavour to accomplish organizational objectives while reducing waste and preserving natural resources (Mishra & Sharma, 2014). Owing to the above, Businesses in recent times have been figuring out how to better respond to environmental issues while ensuring that marketing initiatives are minimizing risks to the environment.

To reach environmentally conscious consumers, green marketing has made it possible for products that already comply with green guidelines to be rebranded and repackaged (Nguyen-Viet, 2023).

Green marketing makes use of marketing ideas like altered production procedures, modified products, altered packaging, and altered advertising. Green products can be perceived differently due to their environmental impact, which can foster a spiritual bond between consumers and the products (Tuan, 2023). This notion has allowed consumers to pay a premium for green products even during periods of economic downturns because they have a high level of brand loyalty and are less sensitive to price (Al Mamun et al., 2023), thus green marketing is a competitive differentiation marketing strategy (Al-dmour et al., 2023). According to (Woo, 2021; Huang et al. 2024), the goal of a green marketing strategy is to determine what businesses need by analysing customer demands and creating pertinent processes that will favourably affect consumers' purchasing decisions. Customer satisfaction, brand development, product positioning in niche markets, and meeting consumer demand are the main focuses of differentiation strategies. Promoters of environmentally friendly goods need to know more about how consumer demographics can affect how consumers react to different types of environmentally friendly advertising. Governments, businesses, and consumers are becoming more conscious of environmental issues. As a result of this, marketers who understand the variables influencing consumer attitudes toward different types of green advertising appeals can more successfully match environmentally friendly messaging and environmentally friendly products to the right consumer. In a consumer-driven market, customers who are looking for products that are as environmentally friendly as possible can attracted by using a green marketing strategy. However, there may be a discrepancy between eco-friendly consumers' actual purchasing habits and their attitudes toward using green products because eco-friendly consumers have distinct behavioural patterns (Chen et al., 2021; Morais et al., 2024). Business executives in the green advertising sector must comprehend this to bridge the perception gap between consumers' attitudes and their actual use of environmentally friendly products (Kim & Lee, 2023; Reddy et al., 2023; Simanjuntak et al., 2023). For green marketing to be of benefit, there must be increasing consumer awareness of environmental issues through the

promotion of eco-friendly products. To achieve this, Brown and Albright (2013), suggest the use of marketing strategies like advocacy, public relations, and product and service promotion. Increasing consumer understanding of green concepts through labelling and packaging strategies is a good place to start when attempting to influence consumer behaviour and promoting eco-friendly decisions (Huang et al., 2024; Kumar & Basu, 2023).

3.9 Challenges of Green Marketing

Among the challenges confronting green marketers is the need for standardization, fresh ideas, perseverance, and avoiding green myopia (Mishra & Sharma, 2014). Since there is no standard to verify the claims made by these campaigns, only 5 percent of marketing messages from green campaigns are entirely true and green campaigns are mostly perceived to have elements of green washing (Mishra & Sharma, 2014). Companies need to make significant financial investments to develop and produce environmentally friendly products. To realize a return on investment and provide customers with an enhanced product, persistence is necessary, just like with any long-term investment. Customers become dissatisfied when green products are overvalued or their quality is misjudged, a phenomenon known as "green myopia." This is evident in the use of subpar products that were advertised as being at par with comparable non-green products in the early days of green product packaging.

3.10 Trends in Sustainable Business Practices

Developing marketing strategies presents a variety of challenges for organizations and marketing experts, as different businesses have varied degrees of success in addressing these challenges (Civic, 2013). Studies on green marketing cover topics like sustainability, entrepreneurship, and innovation (Wilson & Grant, 2013). Globally, companies are placing a great deal of emphasis on environmental sustainability as most have established corporate boards and eco-friendly business plans (Dhar et al., 2022). The increasing significance of adopting environmentally sustainable or green practices necessitates the recognition of the current trends in sustainability marketing (Olsen et al., 2014).

It is therefore crucial to remember that inappropriate marketing initiatives can restrict short-term profits and endanger the ecosystem as a result of inappropriate marketing initiatives. Profit, planet, and people are the three pillars of sustainability, also known as the triple bottom line, which integrates the notion of social responsibility with businesses longevity and profitability concepts (Dhar et al., 2022). Thus, businesses need to set goals that are socially accepted, environmentally acceptable, and economically justified. In light of ongoing environmental changes, organizations need to rethink the value of their products and develop creative ways to use natural resources in the production processes to meet the requirements of the ever-growing green consumer population. Organizations must have a well-defined plan of action that directs their attention to sustainability (Lampikoski et al., 2014). Considering the above issues, five major theoretical debates or schools of thought can be distilled from the literature on green marketing, namely the financial bottom line (FBL), Triple Bottom line (TBL), Environmental, Social and Governance (ESG), and Ecofeminism and Social Ecological Thought (SET). In what follows, these debates are reviewed to better situate the analysis of my empirical study on green marketing orientation dimensions in Ghana.

3.10.1 Financial Bottom Line (FBL)

Proponents of the FBL assert that the end game of any sustainability initiatives should aim at achieving some financial value. However, Kotler (2011) and Wilkie and Moore (2012) believe that a sustainability initiative with an FBL mind-set may not be appropriate in addressing issues of social and ecological crisis. To buttress their assertion, the authors posit that, since marketing supports overconsumption, the implementation of sustainability initiatives would be guided by a utilitarian value mindset, thus making firms focus on only FBL. Firms in their quest to meet their financial needs, economic growth and customer satisfaction requirements have ended up causing environmental degradation, and economic and social inequality through the exploitation of the natural environment (Feng et al., 2024). Since there is no ideal economic and social system, the quest for social and economic prosperity by firms would

have some negative consequence on the environment (Cai, 2023; Udeagha & Ngepah, 2023). Betts and Sikorski (2008) further posit that, the financial bottom-line approach to management is based on the belief that gives priority to technical, scientific, and bureaucratic knowledge. This is manifested in a formal rationality that emphasizes hierarchical social relations that seek to maximize profits, prioritizes shareholders over all other stakeholders, and assumes that people are driven by guileful opportunism that needs to be controlled through competition and regulation as cited in their book, knowledge, people and digital transformation. Traditionally, the financial bottom line approach is by far the most dominant approach to management since the industrial revolution (Mirza et al., 2023) and affirms Friedman's assertion that the role of business is to generate profit and that the social responsibility of business is to increase profits.

3.10.2 Triple Bottom Line (TBL)

The triple bottom-line concepts assume that organizations operating in the business environment have a responsibility to impact positively on all stakeholders (people, planet, and profit). There is empirical evidence in support of the assertion that, proactively addressing stakeholder members' social and ecological needs increases a firm's financial fortunes (Dixon-Fowler et al., 2013; Tseng et al., 2020; Nirino et al., 2021). The TBL according to Dyck and Manchanda (2021) measures the success of environmental initiatives using social, environmental and economic measures as indicators. However, the belief around the implementation of the TBL is centered on financial performance and not the achievement of social and environmental success. Proponents of TBL believe that the TBL approach is not a moral philosophy, but a practical tool used to resolve socio-ecological concerns. The adoption of the TBL was necessitated by the growing awareness of, and concern for, the social and ecological problems associated with the Financial Bottom-Line approach (Elkington, 1997). The TBL approach was described in the book as published by Adams et al. (2013) as the intertwined view. This view though prioritizing the making of profits by organizations, also ensured that social and ecological

problems are mitigated in the process of making that profit. Evidence from literature suggests that focusing on social and ecological issues can increase a firms 'financial well-being (Nishitani & Kokubu, 2020).

The Triple Bottom Line approach has arguably been recognized as the new dominant paradigm in business practice and theory resulting in firms now incorporating it in their financial reports. Most of the world's largest firms now annually report on their financial, social, and ecological performance (Makower et al., 2020). Because the Triple Bottom Line management retains a focus on maximizing profit and a business case decision-making where financial well-being is the first among equals, managers may overlook the exploitive and marginalizing power structures that often attend a profit-first approach. For example, while the Triple Bottom Line approach may have slowed the creation of negative externalities, evidence points to a continually widening gap between the rich and poor linked to the contemporary management emphasis on maximizing shareholder wealth (Bapuji et al., 2020). The net result is a decrease in overall quality of life, social trust, mental health, and ecological well-being (Wilkinson & Pickett, 2010). The seemingly utilitarian outlook of the TBL in modern management practice calls for an alternative paradigm to replace the Triple Bottom Line approach.

3.10.3 Environmental, Social and Governance (ESG)

Unlike the FBL and TBL, the ESG paradigm allows for firms to measure their environmental impact based on issues around the environment, social and governance relative to organizational, investor priority. The environmental dimension of the ESG relates to issues of "*climate change, natural resources, recycling, pollution and the sustainability of the ecosystem*" (Patil et al., 2021). It is believed that the fulfilment of these environmental objectives should be the main focus of firms in their quest towards sustainability. Beyond these environmental requirements, firms should also strive to achieve some social requirements relating to how key stakeholders are treated. Key issues relative to social consideration includes diversity, employees' welfare (human capital), product impact and social issues,

including opportunities to improve the quality of life (Ferrell, 2021). These social impact issues should be the key social requirements that should occupy the minds of firms in their quest to meet the social needs of stakeholders. Finally, governance considerations relate to the adherence to corporate governance and production ethics and social responsibility matters relating to business ethics programs, regulatory compliance and negative behaviour such as bribery, anti-trust and corruption (Bavington, 2021). A good measure of a firm's governance performance as far as sustainability is concerned should be predicated on how successful the firm has been in accomplishing the above measurement criteria. The measurement criteria of ESG have been used as a framework in making investment decisions by investors as it is the main index used by investment banks such as the Vanguard in the United Kingdom. Thus, many stock specialist use the index as a checklist to evaluate firms in which they intend to invest. Bloomberg also uses the ESG index to evaluate firms by obtaining their ESG reports from many sources including organizations sustainability reports, annual reports and other public sources (Ferrell & Ferrell, 2022). Mishra and Sant (2024) provide a summary of the relationships between ESG and a firm's financial performance by suggesting that, High ESG rating is positively related to profitability, valuation and negative to volatility.

Again, High ESG ratings are associated with stocks that outperform competition. Henisz et al. (2019) on the other hand posits that ESG can create value for a firm in several ways. ESG can achieve better access to resources with stronger community and government relations. Also, ESG has been found to lower energy consumption and reduce water intake (Patil et al., 2021; Wang et al., 2023). Furthermore, ESG sustainability can earn subsidies and government support (Zhang et al., 2023). Also, ESG can boost employee motivation and attract talent through greater social credibility (Narayanan, 2022). Furthermore, ESG enhances investment returns in allocating capital and avoids environmental issues related to investments (Ellili, 2022). In all, ESG provides a compelling argument that socio-ecological issues are not just being grafted on to mainstream utilitarian values. This dispels the notion that the achievement of social and ecological imperatives becomes defeated when firms achieve financial success as posited by Dyck and Manchanda (2021). ESG is a government function that seeks the most

impact on socio-ecological matters by allowing the Board of directors within an organization to devise and approve strategy and show leadership leading to the accomplishment of social and ecological objectives. The use of this index by many investors is testimony to the fact that there is no real conflict between being socially and ecologically responsible and financially successful.

3.10.4 Eco Feminism

Ecofeminism is a longstanding school of thought, which addresses the systematic and institutional perspectives missing in the other schools of thought argument. Ecofeminism enhances depth of analysis and offers suggestions which could help prioritize and tackle the systemic and institutional barriers to change alongside operational strategies to aid in marketing and other strategic decisions through a feminist lens. Despite these schools of thought as discussed above, scholars have called for an alternative paradigm to address the social and ecological challenges of our world. This alternative approach, known as SET marketing, is based on virtue ethics and rejects the profit-first mind-set of TBL, FBL, ESG and Ecofeminism.

3.10.5 Social and Ecological Thought (SET) Marketing

Traditionally, marketing has focused on maximizing profitability by meeting consumer needs and wants, according to a mainstream utilitarian perspective (Kotler et al., 2002). However, this approach has resulted in environmental implications and economic inequality (Boyle et al., 2021). Scholars argue that prioritizing financial gains in green marketing strategy makes it difficult for organizations to address key ecological and social issues (Liu & Zhang, 2023; Busch et al., 2024). To overcome these limitations of the utilitarian approach, scholars have proposed an alternative marketing paradigm based on virtue and ethics (Dyck & Manchanda, 2021; Prothero & McDonagh, 2021; Lancastre et al., 2023; Nilsen, 2024;). This alternative, known as Social, Ecological and Thought (SET) marketing, prioritizes social and ecological well-being over pure financial gains. SET marketing aims to meet the social

aspirations of consumers by addressing social crises such as growing inequalities, which negatively impact both the rich and the poor (Wilkinson & Pickett 2020). It also seeks to mitigate ecological crises, including global warming, which affects ecosystems, biodiversity, food security, and extreme climate events according to the Intergovernmental Panel on Climate Change. Scholars argue that businesses have contributed to these crises and should play a significant role in addressing them (Bocken & Short, 2021; Gustafsson et al., 2023; Karneli, 2023). In contrast, there are traditional views of marketing that precede the concept of SET marketing and these include Financial-Bottom-line, Triple Bottom Line, Environmental, Social Governance and Ecofeminism but these are mostly known to advance the profit agenda through the fulfilment of social and environmental requirements.

3.11 Methodological Issues in Green Marketing

This section of the study outlines the various methods used in the study of green marketing in extant literature. It discusses the number of conceptual studies, the number of qualitative, quantitative and mixed methods used in extant literature. There have been several conceptual works in the study area (Bradu et al., 2022; Canavari & Coderoni, 2019; Chahal et al., 2014; Dentoni et al., 2021; Dyck & Caza, 2022; Dyck & Manchanda, 2021; Laczniak & Murphy, 2019; Lim et al., 2022; Prothero & McDonagh, 2021; Saleem et al., 2021; Sheth & Parvatiyar, 2021; Vilkaite-Vaitone & Skackauskiene, 2019; Wood, 2019). Apart from these conceptual works, a study by Kemper and Ballantine (2019) used the discourse analysis method. Hajer (1995, p.44) further defined discourse analysis as 'a specific ensemble of ideas, concepts and categorizations that are produced, reproduced and transformed in a particular set of practices and through which meaning is given to physical and social realities. Other scholars such as Ikram et al., (2021) used the fuzzy Delphi method as a methodological tool in the study of green marketing. The fuzzy Delphi analytical tool as proposed by Hsu et al. (2010) has its main benefit being the fact that, it uses a detailed process to obtain expert feedback, making it superior to the

conventional Delphi approach. Furthermore, (Fujii & Managi, 2019) applied a decomposition analysis framework to clarify the influential factors associated with green patent publications.

Zhen et al. (2020) also proposed a nonlinear mixed integer programming model as a methodological process in the subject area. Wang et al. (2021) on their part, also used the global game framework recently developed in economics. (Lv et al., 2021) in their study combined the DEA-SBM (Data Envelopment Analysis-Super Slack Based Measure) model and GML (Global Malmquist-Luenberger) index to measure the efficiency of green technology innovation in 30 provinces of China from 2003 to 2017 (Du et al., 2019). Following on the works of Zhou et al. (2010) and Lin & Du (2015b), the Malmquist index was used to measure the total-factor carbon productivity. It is evident from extant literature that, not only are studies around green marketing and sustainability conceptual, but many scholars have also used framework models as analytical methodological tools in the study of green marketing. Scholars have also employed the use of mixed methods in the study area. Some of these scholars include (Abutaleb & El-Bassiouny, 2020). Apart from the use of these two methodological tools, the study area has also seen some works done using qualitative methods (Brindley & Oxborrow, 2014; Groulx & Lewis, 2019; Gustavo et al., 2021; Mehraj & Qureshi, 2020; Mukonza & Swarts, 2020; Tabavar et al., 2021; Toufaily et al., 2021). However, the use of quantitative research methods in the conduct of research in the area of green and sustainability marketing is dominant as evident in the works cited below (Alsheikh, 2020; Amoako et al., 2022; Ansari et al., 2022) other authors include Ardito et al., 2016; Baktash & Talib, 2019; Chan, 2013; Ch'ng et al., 2021; Chou et al., 2022; Gelderman et al., 2021; Ibrahim et al., 2021; Jaiswal et al., 2022; Jung et al., 2020; Khaleeli et al., 2021; Kraus et al., 2020; Lin & Ma, 2022; Moise et al., 2021; Nuryakin & Maryati, 2022; Papadas et al., 2019; Prieto-Sandoval et al., 2022; Qureshi et al., 2022; Rehman & Nguyen-Viet, 2023; Risitano et al., 2022; Rudawska, 2019; Singh et al., 2022; Su et al., 2022; Sun et al., 2021; Tanveer et al., 2021; Trujillo-Gallego et al., 2020; Yacob et al., 2019; Yarimoglu & Binboga, 2019; Wang & Kuah, 2018). From the body of literature in the area of green marketing orientation and organizational performance, it was

evident that use of quantitative methods far outnumbered conceptual works, works using qualitative methods and works using model and frameworks as analytical tools.

The use of quantitative methods in studies around green marketing orientation goes to affirm the interest of researchers in the use of quantitative tools in researching on issues of green marketing orientation and organizational performance in recent times. Furthermore, there is a paucity of research works using technology adoption to mediate the relationship between green marketing orientation dimensions and organizational performance, and also the use of Social and Ecological Thought (SET) to moderate the relationship between green marketing orientation dimensions and organizational performance. This study thus seeks to examine the impact of green marketing orientation dimensions on organizational performance using technology adoption to mediate the relationship and social and ecological thought to moderate the relationship between green marketing orientation dimensions and organizational performance with a quantitative technique as the main method used in investigating the relationships.

3.12 Geographical Issues in Green Marketing

In reviewing extant literature in the area of green marketing orientation dimensions and organizational performance, it was found that the bulk of the studies done in green marketing orientation dimension and organizational performance was centered more in Asia, followed by Europe, the Middle East and the Americas. Very few studies, however, are seen in Africa, which is an emerging continent and by far one of the worst affected by the effects of global warming caused by poor environmental practices. From literature, therefore, studies in the research area are centered on developed economies with a paucity of research work in emerging economies, especially Africa.

3.13 Chapter Summary

This chapter reviewed literature in the area of green marketing orientation while highlighting the various schools of thought around the concept of green marketing orientation. The chapter also reviewed green marketing strategies and green marketing orientation dimensions whose constructs formed the basis of this research work. Additional issues of technology adoption and social and ecological thought used in this study as mediating and moderation variables was discussed to help situate their role in the ensuing argument on green marketing orientation dimensions and their role in achieving organizational performance.

CHAPTER FOUR

THEORETICAL REVIEW

4.0 Chapter Overview

This chapter examines the major theories that complete the study as well as the key concepts used in the analysis of this empirical data. It highlights the Natural Resource-based View (NRBV), Stakeholder theory and Dynamic Capabilities (DCs) as the complementary theories in understanding green marketing orientation (GMO) dimensions in the manufacturing sector of Ghana and their influence on organizational performance. The sections that follow describe the relationships between the various theories and why they form the basis of this research. The NRBV theory, for instance, seeks to explain the constructs of the dependent variables (organizational performance), which has been operationalized as an organization's ability to reduce carbon emissions, energy consumption, and water usage. Organization performance though operationalised to reflect three variables has been used in this study as composite construct. Furthermore, the Dynamic capability theory (DC) explained the independent and mediating variable whereby the independent variables are operationalized as (Strategic, Tactical, and Operational green marketing orientation) while the mediating variable technology adoption was operationalized as scientific knowledge, innovations and tools used by organizations to enhance their environmental performance. Again, despite the operationalisation of technology adoption, it was used in the study as a composite construct. Finally, the stakeholder theory explained the use of social and ecological thought (SET) which is a moderating variable in the relationship between green marketing orientation dimensions and organizational performance. The key constructs of this study and their relationship to the independent, mediating, and moderating variables is discussed in detail in chapter five of this research. However, for the purpose of this chapter, the three theories will be reviewed against green marketing orientation dimensions and organizational performance and also the mediation and moderation role of technology adoption and social and ecological thought.

4.1 Natural Resource-Based View (NRBV)

The Natural Resource-Based View (NRBV) has become one of the significant theoretical frameworks examining sources of competitive advantage attributable to environmental and social aspects. Building on the RBV, Hart (1995) presented the Natural Resource-Based View (NRBV) with the assumption that a firm's interaction with its natural resources and stakeholders can be a source of competitive advantage. At its core, the NRBV asserts that a firm's collection of resources related to environmental sustainability and stakeholder engagement is a critical driver of above-normal economic returns and long-term competitiveness (Hart, 1995; Hart & Dowell, 2011). Resources include physical assets such as green technologies and non-physical elements comprising environmental management capacities, stakeholder relationships, and managerial procedures related to eco-efficiency, product stewardship, and corporate responsibility (Lit et al., 2018; Kumar et al., 2017).

Apart from the environmental and ecological aspects, NRBV acknowledges that firms exist within social structures for more than mere monetary gains (Banerjee, 2003; Sharma & Hart, 2014). It highlights how non-financial resources relating to stakeholders and sustainability can contribute to long-term value and resilience (Hart & Dowell, 2011). Relationship-based resources like community trust, ethical corporate culture, and waste reduction skills are difficult for competitors to replicate (Devaney et al., 2023). Therefore, for a resource to generate sustained competitive advantage, it must be valuable in enabling new opportunities or efficiencies related to environmental and social performance, rare among competitors, imperfectly imitable due to causal ambiguity or social complexity, and non-substitutable (Hart, 1995; Barney, 1991). In addition to the identification of tangible resources, the NRBV identifies dynamic capabilities as a source of variable advantage based on stakeholder pressures, regulation, and market dynamics (Aragón-Correa & Sharma, 2003). It again supports developing dynamic capabilities for continuous innovation and ecological process improvements (Zhao et al., 2021).

The NRBV provides a theoretical guide for proactively developing and deploying valuable, rare, and difficult-to-imitate resources related to environmental sustainability and stakeholder engagement as the basis of strategy and superior performance (Hart & Dowell, 2011). It identifies the internal resources, dynamic capabilities, stakeholders, and the natural environmental relationships as critical strategic assets. Notwithstanding all these attributes, the NRBV has limitations: It provides minimal practical guidance on how to obtain desired characteristics, and other factors, such as uncertainty and these can impact performance. Thus, the distinctions between resource inputs and dynamic capabilities require clarification (Teece, 2014). The NRBV also homogenizes resource types despite functional dissimilarities (Walter et al., 2006) and assumes static advantages despite environmental fluctuations (Easterby-Smith et al., 2009). To remedy these limitations, this study builds on the NRBV by adopting the dynamic capability perspective, renewal, and reconfiguration that underpins the ability to sustain continued adaptation (Zollo & Winter, 2002). Dynamic capabilities are a more accurate representation of competitive realities because they describe capabilities primarily related to strategic change in the long term. Based on the limitations of the NRBV theory, the Dynamic capability theory was introduced in the model to complement the static nature of the NRBV theory by complementing technology adoption and green marketing orientation dimensions, which are seen as dynamic capabilities that are rare, valuable and hard to imitate by competing organizations.

4.1.1 Combining Natural Resource Based View and Dynamic Capabilities Theories

While the natural resource-based view (NRBV) focuses on mobilizing environmental and social resources to aid competitive advantage, it is insufficient to sustain long-term competitive advantage in volatile markets (Crook et al., 2008) as technologies, regulations, and stakeholder pressures continually alter industrial settings. Sustainability-related resources are volatile in their value (Teece, 2007). Therefore, applying dynamic capabilities is justified as firms aim to gain competitive advantage and improve environmental and social performance amid instability (Wang & Ahmed, 2007). Furthermore,

Dynamic capabilities allow firms to leverage their natural environment and stakeholder-related resources more productively and erect barriers difficult for competitors to imitate (Helfat et al., 2009).

These capabilities are enshrined in organizational processes and routines to capture, modify, acquire and release resources for responding to the environment (Zahra et al., 2006). However, dynamic capabilities alone only partially address the NRBV's limitations, as the NRBV may not fully connect a firm's resource endowments to its selection, deployment, and coordination abilities for stakeholder engagement and eco-friendly strategies (Di Stefano et al., 2014). However, when dynamic capabilities are considered together with the NRBV theory, they provide a more comprehensive account of how firms achieve competitive advantage stemming from both valuable internal resource attributes and adaptive capabilities for environmental and social performance (Williamson, 1999). By conceptualising natural resources based review and dynamic eco-capabilities in an integrated manner, organizations gain insights into developing complex, path-dependent competencies in sustainability that can generate competitive differentiation over time. It is suggested that this proposed enhanced NRBV perspective, combining static resource advantages with dynamic capabilities better explains strategies driving environmental, social and economic performance in the manufacturing sector amidst uncertainties in the business environment. The integrated view captures how firms build sustainable competitive advantages through iterative cycles of leveraging rare resources and continuously renewing capabilities to meet evolving ecological and social demands. In effect, green marketing orientation dimensions variables are used by food and beverage organizations as a capability to aid them mitigate the adverse effect of their production practices i.e., excessive use of energy, water and the rate at which they release carbons into the environment. The achievement of these performance measures is considered a resource that can be used as a selling proposition to attract environmentally conscious customers.

4.2 Dynamic Capability

Dynamic capabilities can be defined as an organization's ability to adapt to change and configure innovative frameworks to enhance profitability and improve coordination within the marketing department (Chang et al., 2015). Other definitions suggest that dynamic capabilities refer to "the firm's ability to integrate, build, and reconfigure internal and external competencies to address the rapidly changing environments" (Teece et al., 1997, p. 516). The theory recognizes that firm resources must be managed, integrated, and built over time through strategic decisions and actions. These capabilities address both external and internal competencies, enabling the organization to effectively navigate the changing business environment. By filling in the gaps or addressing the limitations of the Natural resource-based view (NRBV), dynamic capabilities enhance operational management and overall firm effectiveness. The original resource-based view emphasizes implicit refinement of difficult-to-imitate organizational processes (Grant, 1991; Prahalad & Hamel, 1990) but in volatile surroundings, Dynamic capabilities are pivotal to maintaining performance (Ambrosini & Bowman, 2009) thus the integration of NRBV and DC theory. Dynamic capabilities again continuously develop, broaden, upgrade, safeguard, and sustain unique resources (Teece et al., 1997). This enhanced competitive differentiation permits promptly adjusting operational profitability amid uncertainty (Augier & Teece, 2009). According to Teece (2007), the main functions of dynamic capabilities include sensing threats or opportunities, responding to them by leveraging external resources, enhancing existing resources through combination and transformation, and reconfiguring operational capabilities. Dynamic capability is a continuous process of developing organizational skills and knowledge to remain aligned with volatile markets, rather than a single solution (Di Stefano et al., 2014). Through dynamic capabilities, firms can achieve competitive advantages and sustain performance over time (Teece, 2018). Again, Winter (2003) identifies dynamic capabilities as zero-level, first-order, and second-order capabilities that allow firms to reconfigure operational capabilities. (Chirumalla et al., 2023; Mele et al., 2023) discussed dynamic capabilities as routines that facilitate resource reconfiguration to changing demands. To them, implementation success depends on capability execution amid intra organizational

traps so that history alone may not dictate need if minimal competition exists (Macher & Mowery, 2009; Sirmon et al., 2011).

Dynamic capabilities encompass routines that allow firms to develop, integrate, and recombine tangible and intangible assets matching market needs (Zahra et al., 2006) to facilitate building resources competitors' struggle to replicate (Zhang & Wu, 2017). Volatile settings drive dynamic capabilities, thus strengthening competitive differentiation (Koryak et al., 2015). Dynamic capability signifies problem-solving, opportunity recognition, and efficient strategic decision skills (Cepeda & Vera, 2007).

Positive relationships exist between dynamic capability, innovation advantages, and evolutionary fitness (Lin & Wu, 2014). Overall, these perspectives characterize dynamic capability as a process of sustaining competitive positioning amid unpredictability. The dynamic capability theory provides a suitable theoretical framework to understand how technology adoption allows firms to develop green marketing orientation, which leads to improved performance within the firm. Technological change creates both opportunities and threats for firms (Darras Barquissau et al., 2024). The ability to sense and seize opportunities for technological innovations, transform and reconfigure resources accordingly constitutes an important dynamic capability (Teece, 2007). The adoption of green technologies is a critical component of sustainable business practices. Dynamic capability theory emphasizes the importance of a firm's ability to integrate and reconfigure its resources to adopt and leverage new technologies effectively (Teece, 2007). Thus, technology adoption allows (1) firms to reduce their environmental footprint, enhance operational efficiency, and develop innovative products and services. (2) Building dynamic capabilities related to technology adoption, firms can effectively evaluate, select, and implement green technologies that align with their strategic objectives and contribute to improved firm performance. In the context of sustainability, dynamic capabilities allow firms to identify and exploit green technologies that can help reduce environmental impact and gain competitive advantages (Acosta-Prado & Tafur-Mendoza, 2024; Makhloufi et al., 2024; Liao & Suprapto, 2024; Amit & Schoemaker, 1993; King & Lenox, 2001). Hart (1995) shows that Firms that develop green practices

require capabilities to integrate and deploy new technologies, processes, skills and knowledge. Dynamic capabilities enable firms to strategically adapt their operations and marketing functions to changing environmental regulations and stakeholder pressures (Teece, 2007).

Most importantly, dynamic capabilities provide a strategic rationale for technology adoption decisions as part of green marketing orientation (Xiao et al., 2023; Zhu et al., 2023). Adopting and implementing new environmental technologies demands the ability to leverage both internal and external knowledge sources as well as to restructure production and distribution networks. The dynamic capability perspective thus recognizes technology adoption and integration as a strategic, planned process rather than just an operational decision (Teece, 2007). Technology adoption acts as an important strategic resource enabling the implementation of strategies like sustainable sourcing, green distribution, and product stewardship (Klein & Pereira, 2016). Hence a green marketing orientation combined with technology adoption constitutes a complex bundle of tangible and intangible resources difficult for competitors to replicate (Hart, 1995; Russo & Fouts, 1997).

4.2.1 Assumptions of the Dynamic Capabilities Theory

The dynamic capabilities theory is built upon several underlying assumptions (Eisenhardt & Martin, 2000; Teece, 2007) which assume that markets are continually evolving, and competitive dynamics are unpredictable. This assumption holds to the extent that, green markets, are dynamic, partly due to changing consumer preferences, regulations, and technologies (Bansal & Roth, 2000) and also because of sustained competitive advantage that arises from the firm's ability to adapt and change as markets evolve. In the context of green marketing, however, dynamic capabilities enable firms to modify their strategies and routines so as to stay competitive through environmental policy changes (Hart, 1995; Russo & Fouts, 1997). For example, because existing resources and competencies may become obsolete, green marketing requires continual renewal of offerings, processes, and business models to allow them to address sustainability issues (Porter & Van der Linde, 1995; Hart & Dowell, 2011).

Moreover, since the future is unknown, firms must learn to develop new knowledge and solutions to allow them to meet the needs of the uncertain future through the tenets of dynamic capability, which assure continuous learning, experimentation, and innovation (Cohen & Levinthal, 1990; Teece, 2007). Again, managerial cognition and actions shape the development of organizational capabilities for managers to play a key role in sensing green opportunities and mobilizing resources for green initiatives through dynamic capabilities (Gavronski et al., 2011; Helfat & Peteraf, 2015).

4.3 Components of Dynamic Capabilities theory

This study focuses on conceptualizing and measuring dynamic capabilities following the lead of Teece (2018), which emphasises intangible assets that enable firms to sense opportunities/threats and adjust resources accordingly. Knowledge assets provide value, rareness and inimitability and thereby contribute to competitive advantage (Lepak et al., 2007). The aim here is to operationalize dynamic capabilities with identifiable components. Following Wilden et al. (2013), the components were described as reconfiguring, learning, integrating, and coordinating. Teece (2018) expanded the components to include sensing environments and restructuring assets. Dynamic capabilities contribute to long-term performance and coping with uncertainty (Schilke, 2014; Sirmon et al., 2011). Again, Akcal and Parast (2018) included "adaptive capability" as a new element. Geels and Schot (2007) propose internally oriented strategic reorientation to external pressures incorporating capabilities, knowledge, sense-making, and learning. Investing in dynamic capabilities enhances innovation, navigation, and flexibility for sustainable advantages (Eisenhardt & Martin, 2000; Zahra et al., 2006). However, higher-order capabilities impact performance more in developing markets (Zahra et al., 2014) and it is for this reason that this study conceptualises dynamic capabilities as sensing, absorptive, adoptive, coordination and reconfiguration capabilities as adapted from Teece (2018), and Wilden et al. (2013).

4.3.1 Sensing Capability

Firms employing dynamic capabilities within their organizations possess the ability to sense emerging trends and changes in consumer preferences. This sensing capability makes it possible for such firms to actively monitor market dynamics, customer demands, and regulatory developments in the field of green products and services. Therefore, Day (2011) describes sensing capability as navigating change by recognizing influential factors such as evolving customer preferences. This discussion on sensing capability relates to capability-based perspectives and open innovation centring on external knowledge sourcing because traditionally, innovation occurred internally, but market unpredictability, emerging technologies, and globalization necessitate inclusive approaches by tapping into external knowledge pools (Dahlander & Gann, 2010; West & Bogers, 2014). Knowledge inflows and outflows across boundaries characterize these approaches (Laursen & Salter, 2006) so that sensing capability underpins not only competitive differentiation by supporting agile environmental scans and changes but also a strategic dynamic process particularly relevant to contemporary collaborative innovation contexts. The development of sensing capability, which focuses on actively managing knowledge from external sources, is crucial in this study as it allows the researcher to investigate the changing role of technology on an organizations performance by identifying external factors that may potentially influence performance, which the researcher has operationalized as a reduction in carbon emissions, water wastage, and energy consumption.

4.3.2 Absorptive Capacity

Absorptive capacity represents a valuable capability supporting sustained competitive differentiation over time (Jansen et al., 2005; Easterby-Smith et al., 2009) and entails recognizing, assimilating, and exploiting external knowledge via dynamic organizational routines (Volberda et al., 2010). Lane et al. (2006) on the other hand, define absorptive capacity as discerning information value, assimilating, and applying it commercially. Therefore, leveraging external knowledge through absorptive capacity drives

innovativeness and enhances performance outcomes (Li & Liu, 2014). Hence, instead of dwelling on market constraints, firms should develop recognition, assimilation, and maintenance capacities for future knowledge integration (Lichtenthaler & Lichtenthaler, 2009; Wang & Ahmed, 2007). Again, learning alliances positively impact performance via absorptive skills (Schilke, 2014) through the introduction of technologies that support learning, innovation and the use of scientific knowledge within an organization.

4.3.3 Adaptive Capability

Adaptive capability refers to an organization's ability to effectively adjust and reconfigure its response to changing market dynamics (Barreto, 2010; Wilden et al., 2013). It enables firms to coordinate, combine, and reallocate resources both internally and externally to seize new opportunities or mitigate threats (Wilden et al., 2013). Adaptive capability is a critical dynamic capability that impacts competitive advantage, particularly in unpredictable environments (Teece et al., 1997; Augier & Teece, 2007). It allows recombining existing competencies to satisfy emerging needs quickly (Teece, 2007). This complementarity of approaches is vital under conditions of uncertainty (Augier & Teece, 2007). Adaptive capability stems from a firm's ability to comprehend change and reconfigure flexibly through resource coordination and dynamic skills (Volberda et al., 2010; Wilden et al., 2013). It represents a key dynamic capability for sustaining competitive advantage in unstable environments through ongoing strategic renewal (Barreto, 2010; Augier & Teece, 2007).

4.3.4 Coordination Capability

Coordination capabilities refer to how managers synchronize intra-firm activities (Wilden et al., 2013) to achieve organizational performance. This capability was further given impetus when Helfat & Peteraf (2015), described it as one process, which involves the accumulation and reconfiguration of dynamic abilities. Thus, coordination management guarantees internal and external relationships

(Priem & Swink, 2012). A firm's coordination capability therefore signifies its ability to effectively conduct and interface processes concerning the well-being of the environment (Zahra et al., 2006).

It harmonizes internal/external resources for their best application (Augier & Teece, 2009). A strong coordination therefore facilitates organizational knowledge integration and new combinations, enabling competitive advantages (Cepeda & Vera, 2007). Thus, networking capabilities through extensive communication and cooperation also require coordination (Gulati et al., 2012). Therefore, absorptive capacity and coordination capabilities are essential to leverage external knowledge for innovation (Laursen & Salter, 2006; Volberda et al., 2010). In unpredictable contexts, coordination capability becomes more vital for diversification and commercialising innovations (Kim & Chintagunta, 2012). Smirnova et al. (2011) propose that the coordination capability of firms extends beyond internal boundaries and encompasses the exploration of external aspects and dynamics of the market environment. This recognition emphasizes the need for firms to adapt to emerging opportunities, address challenges, and align their activities, policies, and strategies with the external environment. The coordination capability of a firm is essential for effectively utilizing resources, responding to evolving challenges and trends, and tapping into emerging opportunities. It again involves aligning internal processes and activities with the external environment to enhance the firm's performance and competitiveness. Mohrman et al. (2008) emphasize that the coordination capability of a firm is influenced by the dynamics of the market environment. This implies that firms need to be responsive to market changes, adapt their coordination processes, and align their activities and strategies accordingly.

4.3.5 Reconfiguration Capability

Reconfiguring capabilities are crucial for firms to align their resources and capabilities with their green marketing orientations. This includes reallocating resources, restructuring processes, and adapting organizational structures to support the implementation of green practices. Firms with effective

reconfiguring capabilities can integrate green marketing principles into their existing operations and product/service portfolios, ensuring that their offerings are environmentally friendly and meet customer expectations. Reconfiguration denotes identifying/pursuing opportunities via environmental scanning and asset/technology modifications (Eisenhardt & Martin, 2000). It aligns/realigns tangible/intangible resources continually for maintaining strength (Teece, 2018). Reconfiguration alters existing skills while dynamic capabilities capture modification propensity (Zahra et al., 2014).

4.4 Rationale for the proposed combination of the NRBV theory and DC

Since theory selection prioritises practical insights over context independence (Wacker, 1998), this study integrates the natural resource-based view (NRBV) and dynamic capabilities (DC) to allow for a comprehensive analysis of a firm's green marketing orientation initiatives and how that affects environmental performance. The NRBV suggests that competitive advantage stems from valuable, rare natural environment and stakeholder-related resources employed differently than rivals (Hart, 1995). However, the NRBV neglects dynamism and adaptation (Barney, 1991). The dynamic capabilities (DC) approach on the other hand, focuses on the ability to capture opportunities during a period of change through timely responses and rearrangement and reconfiguration of resources and competencies (Teece et al., 1997). Therefore, merging the NRBV and DC provides a robust exploration (Eisenhardt & Martin, 2000) which would help explain the role of technology and the green marketing orientation dimensions on organizational performance. Unlike the NRBV's static view, DC emphasizes leveraging environmental and social resources through continuous organizational processes (Teece, 2007).

Both internal sustainability-related strengths and transformation capabilities underpin differentiation under environmental and stakeholder uncertainties (Zollo & Winter, 2002). While distinct theories, the NRBV and DC jointly explain lasting environmental and social performance (Augier & Teece, 2009).

4.5 Stakeholder Theory

This study is grounded in the stakeholder theory, which elucidates the relationship between a business and its stakeholders (Donaldson & Preston, 1995; Mitchell et al., 1997; Freeman, 1999; Hult et al., 2011; Line & Wang 2017a). According to Freeman (1999), stakeholders are individuals or groups who can affect and be affected by the achievement of an organization's goals. The stakeholder theory provides a broad perspective of stakeholders, encompassing any individual or institution that directly or indirectly interacts with the business and has a vested interest in its operations. In a narrower sense, stakeholders can refer to those who contribute resources, time, and attention to the business. In turn, businesses tend to prioritise those stakeholders who provide more resources as being more important in their relationship. Because stakeholders possess attributes of power, legitimacy, and urgency, business managers tend to allocate low priority to stakeholders possessing only one of these attributes, moderate priority to those with two attributes, and high priority to stakeholders possessing all three attributes (Mitchell et al., 1997). Power refers to the degree to which a stakeholder can influence the direction of the relationship through coercive, utilitarian, or normative means (Mitchell et al., 1997). Legitimacy refers to the perception that an entity's actions are desirable, proper, or appropriate within socially accepted systems regulated by norms, values, and beliefs (Suchman, 1995). Urgency refers to the extent to which a stakeholder demands immediate attention, and it is determined by how long management can delay a response to an important stakeholder's demand. Mitchell et al. (1997) went further to posit that, businesses that promptly respond to stakeholders exhibit attributes of urgency, power, and legitimacy. The attention or time that managers allocate to stakeholders depends on the combination of these attributes. Based on these attributes, Mitchell et al. (1997) categorized stakeholders into primary and secondary stakeholders. Primary stakeholders are essential for the firm's survival and continued success. They include customers, employees, shareholders, suppliers, state regulators, and communities that provide resources, regulate the firm's activities, and require adherence to standards. Primary stakeholders have a contractual relationship with the business, directly influencing its decision-making.

On the other hand, secondary stakeholders do not have a direct interest or contractual agreement with the business but can still impact it positively or negatively. They comprise actors such as social media, mass media, advocacy groups, and trade associations. The actions of secondary stakeholders can influence the firm's reputation or public perception. For example, positive word-of-mouth from the mass media can enhance a firm's reputation and customer base, while negative publicity can arise if the firm engages in harmful practices leading to bad publicity.

The stakeholder theory therefore emphasizes that firms must actively engage with a multitude of actors and fulfil objectives beyond maximizing shareholder profit. Management responsibility extends to satisfying other stakeholders, such as the community, state regulators, industry players, and the environment. Consequently, the firm operates within a network and must consider the concerns of all stakeholders when developing processes, structures, and outcomes. The unit of analysis in stakeholder theory is the long-term network relationship between the firm and its stakeholders (Donaldson & Preston, 1995). Stakeholder theory proposes that organizations operate in complex environments consisting of various stakeholder groups whose interests must be considered to ensure long-term viability (Freeman, 2010). Key assumptions include stakeholders (e.g., customers, communities, regulators) influencing firm behaviour and strategies, and that managerial decisions should balance stakeholder interests (Donaldson & Preston, 1995). Growing environmental awareness has strengthened the influence of stakeholders who are passionate about sustainability issues on firm actions (Becker-Olsen et al., 2006; Porter & Kramer, 2006). This is because by implementing green marketing orientation dimensions, stakeholders and organizations demonstrate both their commitment and their ability to improve reputation/legitimacy (Buysse & Verbeke, 2003; Chen, 2010). Prior studies have found that satisfying stakeholder demands regarding environmental and social performance leads to competitive advantages (Clemens & Douglas 2006). Stakeholder theory argues that by actively engaging with and satisfying the needs of stakeholders, firms can enhance their long-term performance. In the context of green marketing orientation, stakeholder theory suggests that firms that prioritize environmental sustainability and meet the expectations of environmentally conscious stakeholders are

more likely to achieve organizational performance. This is because they can attract and retain customers, reduce costs through resource efficiency, and enhance their reputation and brand value. The theory provides a useful theoretical lens through which to examine how green marketing orientation dimensions and social and ecological orientation of organizations influence performance. Stakeholder theory posits that organizational success relies on managing relationships with both internal and external stakeholders (Freeman, 2010). When applied to the context of green marketing orientation dimensions, stakeholder theory offers several propositions: Firms adopt green marketing in response to demands from key stakeholder groups like customers, investors, and regulators who care about environmental and social issues (Jones, 1995; Bansal & Roth, 2000).

Stakeholder pressures drive firms' technology adoption decisions, as new technologies help address stakeholders' environmental and social concerns (Russo & Fouts, 1997; Henriques & Sadorsky, 1999). By responding to stakeholder demands through green marketing orientation dimensions strategies enabled by new technologies, firms can build stronger relationships and goodwill with stakeholder groups (Polonsky & Ottman, 1998; Bansal & Roth, 2000). Strengthened stakeholder ties and legitimacy can lead to improved financial and non-financial performance outcomes over the long run as firms gain stakeholder support (Orlitzky et al., 2003; Russo & Fouts, 1997). From a strategic management perspective (Freeman, 2010; Jones, 1995; Bansal & Roth, 2000) noted that the stakeholder theory offers a sound theoretical foundation for examining the relationships between green marketing orientation dimensions, social and ecological thought (SET) marketing, and firm performance since it focuses on stakeholder relationships. Conclusively, the theory complements the social and ecological thought (SET) used in the study as a moderator to test the assumption that, organizations with a mindset geared towards social responsibility and ecological sustainability are more inclined to implement green marketing orientation.

4.5.1 Assumptions of the Stakeholder Theory

The stakeholder theory is based on four key assumptions that describe the interface between a business and its environment (Freeman et al., 2010; Valentinov & Hajdu, 2021). First, because firms have a relationship with multiple stakeholders who have different rights, objectives, expectations, and responsibilities, these stakeholders are empowered to influence the corporate objectives or operations of the firm. Secondly, organizations are managed by corporate managers who act as agents of the stakeholders, make most of the corporate decisions and allocate resources to meet the needs of stakeholders. The third assumption is that the differences in terms of interests and expectations between the firm and its stakeholders create conflicts that arise from these divergent expectations as stakeholders compete for their respective needs. Lastly, firms operate in markets that operate in equilibrium where competitive pressures can influence behaviour. Apart from the above, Donaldson and Preston (1995) propose three approaches to the stakeholder theory: normative, descriptive/empirical, and instrumental. The normative approach provides moral guidelines on how firms should treat stakeholders, emphasizing fairness and the common good. The descriptive/empirical approach explains how firms interact with stakeholders and shows that companies prioritize stakeholders who are perceived to be more important. The instrumental approach explains the consequences of different behaviours and suggests that businesses can gain a competitive advantage by building trust with stakeholders.

4.6 Empirical Review

Yang et al. (2017) administered questionnaires to 225 Chinese companies across diverse industries. Their measures of green product innovation capabilities centred on new technology/material adoption and continuous improvement efforts. Findings from SEM analysis showed green innovation stimulated further innovation activities by motivating firms to continuously enhance their eco-friendly offerings, providing environmental and economic benefits. Sharma et al. (2020), in their study interviewed personnel from 50 Indian firms regarding green strategies and outcomes. Their results found green product strategies positively impacted financial performance indicators like sales and profit, while non-

financial metrics like customer relationship quality benefited from green promotional activities. Li and Gao (2022) in their study examined how enterprises implement green technology innovation (GTI) when subject to market-based environmental regulations. Their study, which employed an evolutionary game model, demonstrates that companies with a strong green focus are more likely to embrace innovative technologies, particularly when the incentives outweigh the penalties. This research highlights the crucial influence of strategic orientation in shaping decisions about technology adoption, especially within regulated industries. He et al. (2023) distributed an online survey to 400 Chinese firms, assessing dimensions of brand equity including awareness, loyalty and associations. Regression results indicated strategic green brand positioning as a core marketing tactic strengthened all components of brand equity by communicating environmental values to key audiences. Hasan and Ali (2017) conducted a study in Malaysia that focused on the manufacturing and services sectors. Their findings revealed that green marketing strategies, including green products, green pricing, green promotion, and green distribution, have a significantly positive impact on firms' environmental, economic, and marketing performance. Additionally, they found that these strategies positively affect organizational performance. Leonidou et al. (2013) conducted a study in the UK, specifically in the manufacturing industry. They found that green marketing programs, such as green products and green distribution, had a positive impact on a firms' performance. They also observed that green pricing and promotion practices are directly related to firms' return on assets (ROA) performance. The study further highlighted the importance of slack resources and top management risk aversion as antecedents of green marketing. Hasan and Ali (2015) conducted a conceptual paper in Malaysia, focusing on both the manufacturing and services sectors. Their study concluded that both green innovation and green promotion have a positive effect on firms' performance. Abzari et al. (2013) conducted a study in Iran, specifically in the manufacturing industry.

Their paper confirmed a positive relationship between the green marketing mix and market share increase. Miles and Colvin (2000) conducted research in the USA and stated that environmental

marketing performance helps create a reputational advantage that enhances marketing and financial performance. Baker and Sinkula (2005) conducted a study in the USA among manufacturing and service organizations. The findings suggested that environmental marketing has a positive impact on the corporate image, which could lead to increased market share and profitability of firms. Chang and Fong (2010) conducted research in Taiwan and found that green product quality and green corporate image are positively associated with green customer satisfaction and green customer loyalty. Yang and Wang (2020) administered questionnaires to Chinese SMEs regarding green practices and IT adoption. SEM analysis demonstrated that green distribution strategies utilizing E-commerce platforms strengthened environmental competencies. Digital channels enhance remote shopping sustainability by reducing transport emissions.

Schmuck et al. (2018) analysed survey responses from German manufacturers focused on monitoring suppliers. Findings revealed technological tools for transparency, augmented accountability, and spurred compliance with green supply chain standards. Data-driven initiatives ensured sustainability compliance. Chen et al. (2022), surveyed 280 Taiwanese electronics firms about eco-innovation, defined as new green products/processes. Regression analysis showed green R&D positively impacted environmental and operational performance. Mediation analysis revealed technological capabilities partially mediated these relationships, indicating R&D enables innovation that drives performance. Lin and Ma (2022) administered questionnaires to 155 Chinese manufacturing SMEs regarding green strategies and technological innovation. SEM results found green product development strengthened innovation capabilities such as new techniques/materials. Innovativeness facilitated stronger environmental management system integration. Extant research by Danso et al., (2019) has established that Entrepreneurial Sustainability Orientation (ESO) has a positive influence on performance outcomes. In that study, they relied on natural resource-based theory to introduce competitive strategies as moderators in the ESO– performance nexus. Using time-lagged data obtained from 269 firms in Ghana, this study found that firms pursuing the differentiation strategy are more likely to positively boost performance outcomes with ESO than without the differentiation strategy. They also found that

firms can use the low-cost or the integrated strategy to get a higher impact on performance with ESO. Singh et al. (2020), in their study of green innovation and environmental performance, used the resource-based view and the ability-motivation-opportunity theory as their guiding theory in the study of 309 manufacturing sector small and medium-sized enterprises (SMEs). In the study, a covariance-based structural equation modelling (SEM) was utilized. Findings from the study suggest that green human resource management (HRM) practices mediate green transformational leadership on green innovation.

Again, green HRM through green innovation, indirectly influences the firm's environmental performance. Another study by (Gilal et al., 2019) using organizational citizenship behaviour for the environment (OCBE) and supplies-values fit theory (SVFT) examines the influence of green human resource management (HRM) practices on environmental performance using data from higher education institutions. A survey data of 214 employees was used to test the moderation and mediation hypotheses. Findings from the study revealed that green HRM practices positively enhance environmental performance through employees' environmental passion. The study further reveals that the effect of green HRM practices on environmental passion is more important when an employee is high on green values than when s/he is low. A study by Habib et al., (2020) attempts to examine the impact of green entrepreneurial orientation (GEO) and market orientation (MO) on the implementation of green supply chain management (GSCM) practices and subsequent sustainable firm performance. The study further sought to identify the mediating factor between green entrepreneurial orientation and sustainable firm performance and also explores whether market orientation plays a mediating role in the relationship between GEO and GSCM practices. The data from 246 Bangladeshi textile manufacturing firms were analysed using the structural equation modelling with partial least squares techniques. Findings of the study revealed that GEO has a significant positive influence on MO and GSCM practices, which also positively affects all the other three dimensions (economic, environmental, and social) of sustainable firm performance. Further, the results found that GSCM practices partially mediate the relationship between GEO and firm performance. Mukonza and Swarts (2020) using a case

study approach using South Africa's retail giants, Woolworths and Pick n Pay, used a stratified purposive sampling to carry out an in-depth interview and administer questionnaires with senior management of the selected retailers. Path analysis and content analysis were used to establish the correlation. Results from the study found that green marketing strategy has a positive effect on corporate image and business performance. A study by Han et al., (2019) sought to develop a better understanding of the mechanisms by which corporate environmental ethics influences performance through the adoption of substantive actions. The findings of a moderated mediating analysis indicate that firms with higher environmental ethics are more likely to ensure green marketing programs, like green production, pricing, distribution, and promotion initiatives that lead to improved firm performance. Findings of the study further revealed that the closure mechanism negatively moderates the mediation effect of green marketing programs as it results in low trust and unwillingness to internal cooperation. Li et al. (2022) explored the influence of governmental relationships in fostering green production in demonstration households in China and found that there is a positive effect of embedded governmental relationships on green production adoption, suggesting that organizations employing tactical green marketing can benefit from enhanced operational efficiencies and improved reputation, which are critical components of overall performance metrics. Similarly, a study by Jain and Singh (2024) investigated green brand identity in the context of B2B channel partners' tactical green marketing orientation and found that a moderate positive relationship is observed between Commitment and Tactical GMO and between Brand Governance and Attitude confirming statistical significance. Further results from the study again revealed a statistically significant relationship between Attitude and Commitment, Commitment and Tactical GMO, and Brand Governance and Attitude. Ikram et al. (2019) stated that works that incorporate stakeholders in green programs usually lead to better organizational performance. This may imply that inadequate engagement of stakeholders could have led to the weak relationship found in the current study. Furthermore, the measurement of performance outcomes related to TGMO can be complex. Nidumolu et al. (2009) stated that firms that adapt green marketing strategies to the existing and emerging conditions over time or incrementally are likely to be

more effective in the performance of green marketing objectives. This flexibility is particularly appropriate in a dynamic business scenario where customers' attitudes are ever shifting. Corporate Social Responsibility (CSR) strategies affect the nature of interaction between TGMO and OP substantially. According to Alam and Islam (2021), organizations with higher CSR commitments are in a better place to capture more customer attention when such initiatives are embedded in their green marketing strategy. Vilkaite-Vaitone and Skackauskiene (2019) in their study concluded that the implementation of strategic, tactical and operational green marketing orientation when applied within an organization should assure benefits for different stakeholders. The study recommends the importance of extending environmental awareness among employees as they continue to implement their functional activities. Afum et al. (2020) in their study, explored the link between green manufacturing, operational competitiveness, firm reputation and sustainable performance dimensions and revealed that operational competitiveness, firm reputation and environmental performance play no mediation role between green manufacturing and economic performance. Sadeq et al. (2024) offer a comprehensive review of hydrogen energy systems, highlighting the technological advancements and trends that shape the adoption landscape. The study emphasizes the strategic imperatives necessary for the widespread adoption of hydrogen technologies. This analysis complements the understanding of how strategic orientations can influence the adoption of specific green technologies by addressing the broader technological and economic contexts. Furthermore, Wang et al. (2021) in their study concluded that companies that adopt green technologies, such as renewable energy sources and eco-design tools, can create products that meet sustainable standards and further posit that such innovations reduce the environmental footprint and resonate with eco-conscious consumers. Again, Zhou et al. (2022) opined that technology enables businesses to analyse market trends and consumer behaviour effectively.

By utilizing data analytics, organizations are in better position to tailor their green marketing strategies to meet organizational objectives. Digital platforms, particularly social media, provide companies with channels to promote their sustainability efforts. Furthermore, Antukh et al. (2022) investigated hydrogenotrophs-based biological biogas upgrading technologies, bringing to light technological

simplicity and environmental benefits of such innovations. The study revealed that the implementation of operational green marketing within an organization engenders public acceptance and facilitates the integration of biogas technologies within existing energy infrastructures. Meramo et al. (2022), in their study, examined the integration of economic and environmental performance in renewable products. Their findings revealed that operational green marketing plays a critical role in aligning economic incentives with environmental objectives, thereby driving the adoption of bio-based technologies. In summary, the various studies on operational green marketing suggest that the construct is fundamental in navigating the complex landscape of technology adoption within organizations.

4.7 Chapter summary

This chapter contextualized how the Natural Resource-Based View theory, Dynamic Capability theory and the stakeholder theory were used in this study. It further discussed the complementing roles of the theories and juxtaposed it to what currently pertains in extant literature.

CHAPTER FIVE

CONCEPTUAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

5.0 Chapter Overview

In the previous chapter, the study sought to bring to light the theories that guide the study and also drew the relationships between the theories and the constructs used in this research. This chapter however conceptualized the relationships between the different levels of green marketing orientation dimensions (Strategic orientation, Tactical orientation, and Operational/internal orientation) and how they impact on performance, operationalized as (water management, carbon emissions, and energy consumption). The aim is to provide a theoretical understanding of how these components interact to influence the effectiveness of green marketing initiatives. This chapter further brings to focus how the various variables are interrelated and how they together or individually contribute to organizational performance. This chapter starts by conceptualizing green marketing orientation and organizational performance to fit the study purpose. After which the individual construct of green marketing orientation dimensions and how they impact performance are discussed. Thus, Strategic marketing orientation and organizational performance, Tactical marketing orientation and organizational performance, and Operation green marketing orientation and organizational performance are discussed. The chapter closes by examining the mediating and moderating roles of Technology adoption and Social and Ecological Thought (SET) on the relationship between green marketing orientation (GMO) dimensions and organizational performance (PERF).

5.1 Conceptualizing Green Marketing Orientation Dimensions and Performance

Green marketing orientation dimensions have gained significant attention in recent years as businesses strive to align their strategies with environmental sustainability.

Green marketing orientation dimensions, encompass Strategic, Tactical, and Operational elements as conceptualised by (Chamorro & Bañegil, 2006; Gazquez-Abad et al., 2011; Papadas et al., 2017). These dimensions play a crucial role in driving sustainable performance for businesses. The relationships between green marketing orientations and various environmental performance indicators like water management, carbon emissions, and energy consumption are significant in promoting environmental sustainability and achieving organizational performance. At the core of the framework are the green marketing orientation dimensions, which are divided into three levels: Strategic green orientation (SGMO), Tactical green orientation (TGMO), and Operational green orientation (OGMO) (Jin et al., 2021). Strategic green marketing orientation involves long-term planning and decision-making at the organizational level, such as setting sustainability goals (Hussain et al., 2022) and developing comprehensive environmental strategies. Tactical green marketing orientation focuses on specific marketing activities and campaigns aimed at promoting green products and communicating their environmental benefits to consumers (Choudhury et al., 2019). Operational green marketing orientation encompasses day-to-day practices that support the execution of tactical strategies, such as eco-labeling, sustainable packaging, and responsible supply chain management. The performance outcomes in this study's framework encompass environmental metrics, including the reduction of water wastage, carbon emissions, and energy consumption (Lin & Ma, 2022) by food and beverage manufacturing organizations in Ghana was operationalised as a composite construct.

5.1.1 Strategic Green Marketing Orientation and Performance

Strategic green marketing orientation refers to integrating environmental considerations into core marketing decisions and long-term planning (Gazquez-Abad et al., 2011; Papadas et al., 2017). Strategic green marketing orientation involves integrating sustainability into mission/vision statements and long-term plans of organizations (Chen & Chang, 2013; Adeola et al., 2021).

This involves analysing green market opportunities, understanding sustainable consumer needs, and assessing behavioural responses to green offerings. Strategic green marketing orientation encompasses setting objectives, budgets, segments, and initiatives for both internal processes and external promotion, oriented towards sustainability (Papadas et al., 2017). Process initiatives relate to eco-design, packaging, and logistics, while market initiatives include green advertising and eco-labelling to communicate environmental values to customers (Papadas et al., 2017). Successful strategic green marketing orientation requires decisions around launching green programs, defining target segments and developing promotional plans aligned with customer expectations. This comprehensive approach allows firms to gain a competitive advantage by tapping into lucrative green segments and satisfying growing sustainable product demand (Quoquab et al., 2021). Adopting a strategic green marketing orientation helps organizations build brand reputation and positive stakeholder perceptions through the implementation of environmental objectives (Garay & Font, 2012). Hussain et al. (2022) studied how environmental, social and governance (ESG) goals influenced trust in Pakistani firms. They found that transparent goals on reducing carbon emissions-built stakeholder trust in the long term. However, the study noted that commitments depended on consistent implementation of green marketing orientation throughout the organization.

5.1.2 Tactical Green Marketing Orientation and Performance

Tactical green marketing orientation focuses on embedding environmental values into the traditional 4Ps at an operational level (Papadas et al., 2017; Gazquez-Abad et al., 2011). This helps fulfil both sustainability and business objectives. In embedding the 4Ps tactically, firms employ eco-friendly product development and promotion initiatives into their overall corporate strategy (Ottman et al., 2006). This then allows for organizations to develop products that meet the requirements of green enthusiasts who, in recent times, have impacted the performance of organizations owing to their preference for green products. Again, at the product level, greener options using recycled/renewable materials are employed to enable organizations address eco-demand while strengthening their positioning (Ku et al., 2012; Kalburan & Hasiloglu, 2018). The certification of an organization's products by green enthusiasts as meeting green production standards improves trust (Papadas et al., 2017). In terms of pricing, green products often cost more (Sharma & Iyer, 2012), and so for organization to remain competitive, it is imperative that prices for green products are carefully set to ensure that the organization is able to cover its expenses while staying profitable (Padhy & Vishnoi, 2015; Singh et al., 2016). Distribution on the other hand, emphasises local/seasonal sourcing and efficient fleet management to minimise carbon footprints attributed to the use of traditional transport (Singh et al., 2016) in enhancing supply chain sustainability. Lastly, promotion utilizes the use of digital media and eco-sponsorships for climate-friendly outreach (Papadas et al., 2017; Singh et al., 2016). Aligning tactics with strategies thus ensures competitive differentiation and long-term performance. Tactical pricing strategies can drive objective outcomes when strategically balanced. Setting competitive renewable energy prices promotes customer adoption of renewable energy, thus reducing the dependence on carbon-intensive utilities (Zhao et al., 2021). Dynamic pricing of eco-services incentivizes sustainable consumption behaviours for water and energy conservation (Yang & Wang, 2020). Distribution via environmentally

friendly fleets and promotions via virtual/digital channels lowers logistics use, carbon emissions, and waste generation (Sarkis et al., 2021). Adopting circular economy principles in reverse logistics recovers value from returned/end-of-life products, minimizing wastage in landfills (Geng et al., 2020). Coordinating tactics are key in integrating the Internet of Things (IoT) and blockchain technologies. Data-driven promotion helps achieve emission reduction commitments through informing low-carbon lifestyles (Luo et al., 2024).

5.1.3 Operational Green Marketing Orientation and Performance

Operational green marketing orientation refers to enacting environmental values within daily marketing activities (Keyvani, 2011; Papadas et al., 2017). Within organizational settings, operational processes are optimized to reduce excessive resource use in the production process (Ginsberg & Bloom, 2004). While commercial objectives of the organization remain a priority, issues of the environment and social good remain a concern as organizations strive to balance stakeholder requirements in their day-to-day operations. Internally, staff cultivate a green culture through leadership, employee training, and awareness initiatives across functions (Chamorro & Bañegil, 2006; Papadas et al., 2017). The combined effect of the external and internal implementation of stakeholder requirements strengthens an organization's commitment to sustainability principles in the day-to-day operations of the organization. Externally, an organization's engagement with its stakeholders attracts and retains eco-conscious customers through communications about products, take-back programs, and supply chain greening initiatives (Keyvani, 2011). Hence, Strategic, Tactical and Operational dimensions balance short- and long-term objectives and stakeholder value (Papadas et al., 2017). Additionally, application of these green marketing orientation dimensions builds equity, trust and reputation by visibly enabling sustainability internally and externally. Over time, this framework boosts competitive advantage by positioning the organization as a

responsible citizen committed to sustainability leadership, which in the end attracts talent, fosters loyalty, and enhances investor confidence in the organization. Zheng et al. (2020) studied China's eco-label programs and found they effectively educate consumers and improve perceived organizational honesty about an organization's environmental initiatives. However, the study indicated that eco-labels alone do not sufficiently stimulate purchases without conveying sustainability qualities that match consumer values.

In a related study, renewable packaging was explored by Li & Huang (2021). Their findings showed that, the use of biodegradable materials in the production process increased customer trust and satisfaction through demonstrating supply chain respect for natural resources. Nonetheless, the authors noted that packaging claims require verification to maintain trustworthy perceptions over time. Research indicates that individual green marketing orientation dimensions positively impact certain organizational outcomes (Al-dmour et al., 2023; Borah et al., 2023), for example, strategic green marketing emphasizing environmental values builds trust in the minds of green-conscious customers (Chen, 2010). On the other hand, tactical eco-labelling initiatives lower carbon emissions by providing information on the safe disposal and use of products, thus informing consumer choice regarding the use of environmentally safe products (Teisl et al., 2002). Chen & Chang (2013) also found that the implementation of strategy in the practice of green marketing in the overall organizational arrangement alone is insufficient as tactical actions are required to reinforce sustainability values in the minds of the consuming public. Similarly, Ginsberg and Bloom (2004) opined that those operational efficiencies alone do not guarantee reduced impact of an organization's activity on the environment without strategic vision. This suggests that a comprehensive, multilevel approach may be required for the effective implementation of green marketing orientation dimensions initiatives within an organization. Lascu et al. (1995) and Wagner et al. (2009) found that commitment to long-term environmental strategies builds trust and positive

brand perceptions over time. Almutairi et al. (2021) and Quoquab et al. (2021) also found that a robust long-term green strategy enhances customer satisfaction, loyalty and trust over time.

Schubert (2017) showed that targeted campaigns and education lower within organizations. These assertions led the researcher to hypothesize that,

H1: Strategic green marketing orientation significantly influences organizational performance

H2: Operational green marketing orientation significantly influences organizational performance

H3: Tactical green marketing orientation significantly influences organizational performance

H4: Strategic green marketing orientation has a significant effect on technology adoption

H5: Operational green marketing orientation has a significant effect on technology adoption

H6: Tactical green marketing orientation has a significant effect on technology adoption

H7: Technology adoption has a significant effect on organizational performance

5.2 The Moderating Role of Social Ecological Thought

The framework incorporates Social and Ecological Thought (SET) as a moderator. SET represents the social and ecological values, beliefs, and norms that influence consumer behaviour and organizational practices. As a moderator, SET influences the relationship between green marketing orientation and performance outcomes. It suggests that if society's values align with sustainability principles, the impact of green marketing orientation on performance may be reinforced. Conversely, if SET is not congruent with green initiatives, the effectiveness of green marketing orientation may be diminished. SET emphasizes the

interconnectedness of social and ecological factors and how they influence sustainable practices and performance. Social Ecological Thought (SET) refers to an ideology recognizing the interdependence between human societies and natural ecosystems. Firms with strong SET values acknowledge humanity's embeddedness in supporting ecological life (Kumar et al., 2022). It acknowledges that environmental and social issues are intertwined and challenges the view of human domination over nature (Kopnina, 2018).

SET emphasizes sustainability through balanced relationships between humans and the environment (Berkes, 2003). Prior research indicates SET shapes consumer preferences and decision-making regarding sustainability (Schultz et al., 2007). Individuals with stronger SET orientations are more likely to consider environmental and social impacts in their choices (Kopnina, 2018). At an organizational level, SET influences strategic priorities and stakeholder relationships (Wagner Mainardes et al., 2012). Firms attuned to SET principles may derive greater benefits from green marketing orientation by their use within the organization. In markets where consumers embrace SET values like environmental stewardship and social justice, green marketing orientation may resonate more strongly, enhancing performance outcomes (Kopnina, 2018). SET encourages holistic and systemic views of sustainability that consider both environmental and social dimensions (Berkes & Folke, 1998). SET supports balanced and equitable relationships between businesses and stakeholders like communities, governments, and NGOs (Berkes, 2003). Firms guided by SET may therefore realize cooperative advantages from green strategies that amplify performance outcomes (Calza et al., 2021). Businesses that adopt green marketing orientation aligned with SET principles are more likely to implement carbon reduction initiatives, such as energy-efficient operations, renewable energy adoption, and carbon offset programs (Kaur et al., 2022). Kumar et al. (2022) found that SET beliefs bolstered the effect of environmental programs on performance outcomes. Hence, this study proposes the fourth hypothesis:

H8 (a,b,c): Social ecological thought significantly moderates the relationship between green marketing orientation dimensions and performance of businesses

5.3 Technology Adoption as a Mediator

Green marketing involves promoting environmentally friendly business practices and products that appeal to ecologically conscious consumers (Peattie, 1995; Polonsky, 2011). Prior research shows that green marketing orientation improves organizational performance (Chen, 2008; Leonidou et al., 2013; Papadas et al., 2017; Apaza-Panca et al., 2024; Mukonza and Swarts, 2020; Gelderman et al., 2021; Sharma, 2021). However, the relationship is complex and may be influenced by other factors (Baker & Sinkula, 2005; Chen et al., 2015). One such factor that merits further investigation is technology. The framework proposes that technology acts as a mediator in the relationship between green marketing orientation dimensions and performance. Technology, in this context, refers to the application of scientific knowledge, tools, and innovations to enhance the implementation and effectiveness of green marketing initiatives within an organization that impacts on overall performance. Examples of technological interventions include the use of digital platforms for promoting green products, advanced manufacturing processes to reduce environmental impacts, and data analytics tools to monitor and optimize sustainability performance. By leveraging technology, organizations can enhance their green marketing initiatives, leading to improved performance outcomes (Sahoo et al., 2023; Martínez-Peláez et al., 2023). Technology adoption encompasses eco-friendly innovations and systems that minimize environmental impact (Chen et al., 2006; Chen, 2008). Green technology refers to utilizing eco-friendly practices and innovative solutions to develop sustainable offerings (Zhu et al., 2023). It facilitates improving resource efficiency, lowering costs, and meeting rising demand for green products and services (Zhu et al., 2023). Adopting

green technology optimizes business operations by cutting waste and boosting resource utilization.

Again, technology adoption enhances operational efficiency, lowers expenses, and improves performance metrics (Zhu et al., 2023). Additionally, it allows firms to streamline their operations, reduce costs, and develop sustainable solutions (Chen et al., 2015; Chen et al., 2021). In leveraging technology, firms can create products catering to eco-conscious consumers while differentiating it from the market (Zhu et al., 2023). Again, green technology facilitates developing green materials, energy-efficient manufacturing, and sustainable supply chains, resulting in novel and marketable goods (Zhu et al., 2023). Technology adoption underscores commitment to sustainability, enhances brand image, and provides a competitive edge, thereby aiding the achievement of the goals and objectives that help to position firms as responsible actors and attract environmentally minded customers (Zhu et al., 2023). Furthermore, technology adoption allows the offering of unique value propositions addressing sustainability issues and securing loyal customers (Zhu et al., 2023). Few studies indicate that technology may mediate the link between green marketing orientations and organizational performance (Chen, 2008; Chen et al., 2015). However, the mediating role of technology adoption remains underexplored, especially in the food and beverage industry in Ghana. Technology adoption improves resource efficiency and operational performance (Chen et al., 2006; Chen et al., 2015). It also enables product and process innovations to meet sustainability demands (Chen, 2008; Chen et al., 2021). Furthermore, technology adoption supports green differentiation and competitive advantages in the market (Chen et al., 2006; Chen et al., 2015). Together, these pathways could mediate the effects of green marketing orientation on performance outcomes. Hence the development of the hypothesis.

H9*: Technology adoption significantly mediates the relationship between strategic green marketing orientation and performance*

***H10**: Technology adoption significantly mediates the relationship between operational green marketing orientation and performance*

***H11**: Technology adoption significantly mediates the relationship between tactical green marketing orientation and performance*

5.4 Control Variables

The study aims to understand how different factors influence the effectiveness of green marketing orientation. However, there may be other firm-level characteristics impacting performance that need to be accounted for. To provide a rigorous evaluation, the study includes relevant control variables. Firm size is an important control, as the framework examines relationships at multiple organizational levels (Strategic, Tactical, and Operational). Larger firms may have resources to implement green initiatives across these levels (Andersén et al., 2020). Thus, the study categorizes firm size as small, medium, or large, consistent with the classifications by Paillé et al. (2014) and Judge and Elenkov (2005). Firm age is also included, as a company's longevity can shape its culture, reputation, and ability to establish sustainable supply practices over time (Awan et al., 2018). Assessing performance outcomes while statistically controlling for age provides a robustness check. Firm type is relevant given that regulations and standards differ across sectors (Manrique & Martí-Ballester, 2017). For example, manufacturing firms may face more stringent environmental requirements, including types of controls for industry effects. Lastly, ownership structure under firm ownership could play a role, as privately owned versus publicly owned companies may have diverging priorities. Statistically, accounting for these controlling firm characteristics when evaluating relationships proposed in the framework helps isolate the specific influences of green marketing orientation,

technology, and social, ecological thought from potential confounding effects of size, age, type and ownership. This enhances the validity and generalizability of the model's insights.

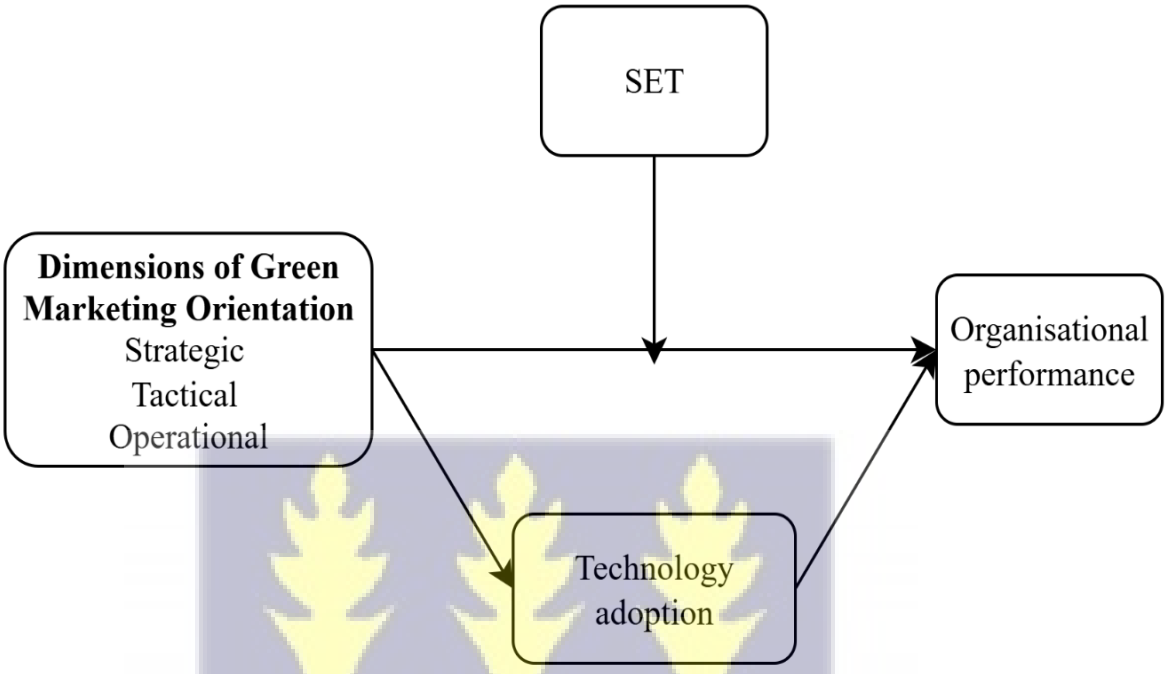

Figure 5.1: Conceptual Model

Source: Adapted from literature

This conceptual framework illustrates the interplay between the different levels of green marketing orientation dimensions, performance outcomes, technology as a mediator, and SET as a moderator. It highlights the importance of aligning Strategic, Tactical, and Operational green marketing orientation dimensions with organizational performance, leveraging technology to enhance effectiveness, and considering the influence of social and ecological thought on the outcomes. By understanding and incorporating these relationships, organizations can develop and implement a comprehensive and impactful green marketing

orientation that drives positive performance outcomes like water management, carbon emissions and energy consumption.

5.5 Chapter Summary

In chapter five, the researcher sought to conceptualize and bring into perspective the key constructs forming the basis of this study. The chapter began by defining the variables of green marketing orientation dimensions as conceptualized by (Chamorro & Banegil, 2006, Gazquez-Abad et al., 2011; Papadas et al., 2017) to include Strategic green marketing orientation, Tactical green marketing orientation and Operational green marketing orientation and how they individually contribute to organizational performance. The chapter went further to address the role of Technology adoption used in the study as a mediator and its relationship between green marketing orientation and organizational performance. Social and ecological thought, otherwise known as SET marketing, was used as a moderator in the study and sought to throw light on its moderating role in the relationship between green marketing orientation and organizational performance. The chapter ended with an explanation of the control variable in the study.

CHAPTER SIX

RESEARCH METHODOLOGY

6.0 Chapter Overview

This chapter presents the procedure followed in conducting the study in terms of the philosophical assumptions, its related approaches, methodology, data collection, and analysis processes. The chapter briefly reviews the major philosophical assumptions of social science research as a basis for identifying the most appropriate framework within which to position the current study. This dovetails into discussions on the positioning of the study in a quantitative method framework. The chapter further entails a description of the population and sampling size, the data sources and tools used in data collection, and analytical approaches. There is also a detailed report on how the data was collected, managed, and analysed. The chapter ends with ethical issues considered in the study and a conclusion.

6.1 Philosophical Assumptions and Paradigms in Social Science

All approaches to academic research in social sciences have their foundations deeply rooted in competing assumptions as to what constitutes valid research. These assumptions are usually a product of scholarly perceptions of how the world works and how people behave. The assumptions spring from frames of thinking or philosophies generally referred to as research paradigms (Burrell & Morgan, 2019; Kuhn, 2012; Lincoln et al., 2011; Saunders, 2011). Paradigms are intellectual frameworks that are used to construct a view of reality, and they serve as benchmarks that specify a discipline's proper domain, appropriate research questions, and rules of inference (Burrell & Morgan, 2019; Guba & Lincoln 1994; Kuhn 2012; Morgan, 1980).

However, owing to the fundamental differences in conceptions about the nature of reality, different paradigms are found in the literature. Generally, the philosophical assumptions that inform the various research paradigms are expressed in four main dimensions, namely ontology (objectivism versus subjectivism), epistemology (positivism versus interpretivism), methodology (quantitative versus qualitative) and axiology (value-free and value-laden) (Burrell & Morgan, 2019; Guba & Lincoln, 1994). While epistemology focuses on what and how we may know about reality, ontology considers the essence of reality (what is out there to know). On the other hand, methodology pertains to the science and study of procedures and assumptions regarding how knowledge is produced and is concerned with the logic of scientific inquiry (Creswell 2009; Lincoln et al., 2011).

Axiology touches on the function of values in an investigation. There is typically a distinction made between the belief that it is impossible to do research without imposing values and the attempt to assure objectivity in research, which entails isolating facts from the values of the knower (inquirer) and knowing object. The latter deliberately disclose their views and prejudices because they acknowledge the value-laden nature of both the researcher and the material acquired during research (Burrell & Morgan, 2019; Lincoln et al., 2011). These paradigms exert profound influences on what scholars think and the steps they take in conducting inquiry in their fields or disciplines (Blaikie 2007; Burrell & Morgan 2019; Lan & Anders 2000). They are important to all studies, including this one, because assumptions made by a researcher have consequences for the strategies and tools adopted (methodology) as well as judgements made about values (axiology) in the entire research process (Blaikie 2007; Creswell 2009; Hughes & Sharrock 2016). While these classifications come with their strengths and weaknesses, this study is of the view that it is not just trumpeting the strengths of one paradigm over the other that is important, but rather the awareness that having fundamentally different assumptions leads to different strategies and the possibility of

producing different outcomes. Philosophical assumptions of research are not only fundamental in any research design, but the research strategy is at the heart of the entire process of developing the problem and justification for the study. Nachamias and Nachamias (1996) argue that methodological choices in an investigation may enhance or diminish the dependability or acceptability of the research findings. To this end, the authors underscore a need for researchers to be careful in determining an appropriate philosophy or design that is compatible with the research problem or question (Saunders, 2011). To justify and legitimize certain types of research approaches, many scholars typically establish explicit frameworks and methodologies for inquiry, grounded in specific foundations and premises. This approach serves to validate and substantiate particular research methods (Nachamias & Nachamias, 1996; Eldabi et al., 2002).

Paradigms, therefore, end up forming the basis of the different methods of application that can be applied to a study (Balakrishnan et al., 2013) or are part of the theories that a researcher may hold (Myers, 2013; Krauss, 2005). Among the traditional paradigms of management research are positivism, critical realism, relativism, interpretivism, and realism (Creswell, 2014; Saunders et al., 2016). These paradigms can also be analysed with some assumptions defining the approach to epistemology (the notion of knowledge), ontology (the notion of reality), and axiology (the notion of values) (Creswell, 2014). Understanding these types of research paradigm classifications substantially help answer the question raised in this chapter that focuses on the role of the positivism paradigm in this study. The selection of this distinct assumption is because the described paradigms seem to be overlapping and appear like each other. Table 6.1 Thus gives a summary of the various Paradigms and philosophical assumptions often used in management research out of which the appropriate assumption was selected.

Table 6.1: Summary of Paradigms and Philosophies in Research

Paradigm	Ontology	Epistemology	Axiology
Interpretivist	Human experiences and interpretations give rise to several realities. Society shapes reality.	Knowledge has values and is contingent on context, time, and subjectivity.	Researchers identify the numerous constructs and interpretations of reality that exists and try to establish patterns in order to produce new knowledge. Novel design and inductive reasoning.
Critical Realism	There are two terms: intransitive and transitive. While intransitive embodies the truth, which is independent of mental opinions, transitive refers to what we saw and learned with our minds informs our perceptions of reality.	Transitive words are dynamic and full of meaning. We aim to investigate the underlying, rather long-lasting structures and dynamics of the intransitive universe.	The goal of research is to dissect and comprehend the mechanisms and structures that underlie the subjective reality that people experience. To try to find out, one must triangulate information from a variety of sources using retroactive reasoning.
Realism	Triangulation from multiple sources is necessary to attempt to know reality because, while "real," it is only imperfectly and probabilistically comprehensible.	Both value-cognitive and value-aware. Results are probably accurate. Every perception the research gathers must be triangulated.	In order to identify patterns of relationships and, ultimately, a potential explanation, hypotheses about the social phenomenon are tested.
Relativism	There are several realities. Truth as reality is not "absolute," but rather relative and contingent upon "something." It also exists.	It takes human processing in some capacity to perceive the world.	An individual's worldview and research paradigm has an impact on how knowledge is constructed. Academics ought to concentrate more on formulating novel and practical hypotheses—that is, practical answers to particular issues.
Positivism	There is just one concrete, objective reality.	Context-free, objective information is produced without regard to time constraints.	After formulating study questions and hypotheses, researchers carefully manage the experimental conditions to test their findings. Deductive reasoning

Source: Boateng, 2014

6.2 Paradigms in Marketing Research

6.2.1 Positivism Paradigm

In management research, the positivist paradigm is a commonly used methodology (Neuman, 2007). The terms "scientific," "objectivist," or "experimentalist" are also used to describe this paradigm (Thomas, 2004). The positivist paradigm, which stresses the ability of logical and scientific reasoning to comprehend and influence the universe, is attributed to Auguste Comte (1798–1857) (Fisher, 2010). Unlike researchers in some other paradigms who admit their participation and impact on the research process, positivist researchers seek to distance themselves from the study (Healy & Perry, 2000). According to Healy and Perry (2000), positivism employs both deductive and inductive reasoning to arrive at universal causal laws or principles that may be rationally inferred to explain how things work. The positivist paradigm assumes that reality is both quantifiable and comprehensible. As per Healy and Perry (2000), positivist scholars use scientific techniques to formulate general rules that have the ability to define and anticipate patterns. They further posit that this paradigm usually employs quantitative approaches for testing ideas. The positivist paradigm in marketing research is classified as having a "hard" or "soft" ontological approach (Hanson & Grimmer, 2007). The hard ontological approach stresses the existence of an objective reality that can be found, and that this reality can be known with high certainty through the application of procedures that follow scientific correctness (Carson et al., 2001). A "soft" positivist ontology, on the other hand, supports a more complex view of reality and the place of the researcher within the research process. Traditionally, social sciences have relied on the 'hard' positivist ontology. Thus, (Kral et al., 2002) make the assumption that it is possible to ascertain the degree to which reality has been accurately captured by means of credible, legitimate, and statistically significant research.

According to Remenyi et al. (1998), researchers who follow the hard positivist paradigm see reality as objective, singular, and palpable. Remenyi et al. (1998) state that their goal is to create research methodologies that make use of current theory to provide hypotheses that can be tested to determine whether or not they are valid. Quantitative data obtained by following rigorous guidelines and protocols is the main source of information used by positivists (Robson, 2011). Neuman (2007) states that positivist researchers gather and analyse data through surveys, observations, experiments, and statistical analysis in order to comprehend, analyse, and forecast the behaviour of the phenomenon under study. This process is intended to use the data to show the links between variables (Neuman, 2007). In social sciences, the hard positivist ontology is the conventional and prevalent approach that is distinguished by its emphasis on objective, measurable reality, the application of rigorous rules and procedures to ensure statistical significance, reliability, and validity, and the use of quantitative methods (Kral et al., 2002; Remenyi et al., 1998; Robson, 2011; Neuman, 2007).

6.2.2 Interpretivist Paradigm in Marketing

The interpretivist paradigm is predicated on the idea that the natural sciences and human social activity are essentially distinct from one another. As a result, this viewpoint contends that social science research cannot be conducted directly using the scientific methods of the natural sciences (Neuman, 2007). Thus, according to Neuman (2007), interpretivist scholars hold a constructionist perspective on social reality, which is based on the unique qualities of humans. Many academics describe interpretivist research as "constructionist". The constructionist approach thus holds that individual interactions and interpretations actively build social reality (Neuman, 2007). As a result, interpretivist researchers are less likely to employ a nomothetic approach focused on developing universal principles and laws that govern human behaviour.

Instead, they tend to favour an idiographic form of explanation, which emphasizes detailed descriptions and explanations of specific social settings, processes, or relationships (Neuman, 2007). Interpretivist researchers use inductive reasoning to develop their understandings rather than deductive hypothesis testing. There is no one "truth" that can be found that is objective or unchanging because reality is subjective and ever-changing, according to the interpretivist paradigm (Walsham, 1995). Many and varied interpretations of reality result from the idea that meaning is socially constructed (Walsham, 1995). Therefore, to investigate and comprehend these many explanations of occurrences, interpretivist research uses qualitative approaches (Walsham, 1995). The interpretivist technique in marketing research is strong because it can handle the nuances and complexity of situational meanings (Black, 2006). Interpreting data that can have several interpretations requires in-depth explanation and interpretation, which is why qualitative interpretivist research is sometimes referred to as "contextually laden, subjective, and richly detailed" (Byrne, 2001). Ultimately, the interpretivist paradigm is underpinned by a relativist ontology, where each individual is seen as having a unique reality (Neuman, 2007). The interpretivist paradigm posits that meaning can be derived from an object or phenomenon by understanding the context and relating it to the various purposes at hand (Creswell, 2009; Thomas, 2004). From this perspective, reality is viewed as a socially constructed product shaped by the experiences and interpretations of both researchers and research participants (Robson, 2011). Researchers who adopt an interpretivist perspective acknowledge that people's lived experiences shape their worldview, not some ultimate, objective concept (Robson, 2011). According to Robson (2011), conceptual schemas and thoughts shaped by culture determine how events are interpreted, and these factors determine reality.

Since there may be several legitimate viewpoints on the same reality, interpretivist scholars so frequently avoid drawing too wide of a generalization (Bryman & Bell, 2007).

Individuals' distinct experiences and cultural circumstances are highlighted, and meanings are recognized as being socially and historically negotiated (Niglas, 2010; Robson, 2011). Researchers who employ interpretivism frequently aim to better understand cognitive processes and meaning making by gaining an understanding of pertinent historical events and cultural values (Creswell, 2014). Research participants hold diverse constructions of meaning and knowledge, which constructionist interpretivist techniques seek to clarify (Creswell, 2014; Robson, 2011). This is advantageous for qualitative research, as it allows investigators to study phenomena in natural environments and use in-depth interviews to capture the complex, multidimensional character of reality (Robson, 2011; Creswell, 2014). Interpretivist researchers often view organizations as socially constructed products, best understood through the perspectives of those directly involved in the relevant activities (Bryman & Bell, 2007). This stance challenges the notion of an objective, singular reality that can be studied from a purely external perspective (Creswell, 2014; Bryman & Bell, 2007).

6.2.3 Pragmatist Paradigm

The pragmatist research paradigm, also referred to as post-positivism or critical realism, presents an intriguing alternative to the more established positivist and interpretivist approaches in the social sciences (Boateng & Boateng, 2014; Guba & Lincoln, 1994). At the core of pragmatism is the notion that reality, while potentially objective, is constantly being contested and renegotiated by competing groups and perspectives (Creswell, 2014). Pragmatist researchers do not align themselves with any single philosophical system or conception of reality; instead, their focus is on the practical application of research to address real-world problems and generate actionable knowledge (Creswell, 2009). A key tenet of the pragmatist paradigm is its emphasis on the role of consequences, actions, and situational factors in shaping research and understanding (Boateng & Boateng, 2014).

Pragmatists are less concerned with preconceived notions of truth or reality and more focused on the practical outcomes and applications of their inquiries. This orientation towards problem-solving and utility is especially relevant in the field of marketing, where researchers and practitioners are tasked with navigating the dynamic, contested landscape of consumer behaviour, market trends, and competitive forces. Indeed, the pragmatist paradigm has been described as a "growing movement transforming the intellectual scene" in management research, offering a flexible and adaptable framework for addressing the complex realities of modern business (Bhaskar, 1978). From this perspective, reality is viewed as existing independently of the researcher's mind, comprised of abstract concepts and constructs that transcend the perspective of any single individual (Bhaskar, 1978). Marketers, then, must contend with an external, autonomous reality, the "real world" of the market place rather than simply pursuing their own subjective agendas or postmodern preferences (Brown, 1996).

The pragmatist approach encourages researchers to adopt a pluralistic methodology, selectively employing quantitative and qualitative techniques as needed to address the research problem at hand (Creswell, 2009; Teddlie & Tashakkori, 2009). This flexibility and adaptability are a key strength of the pragmatist paradigm, allowing investigators to draw from a diverse toolkit of methods and approaches to generate insights and drive practical change. Moreover, the pragmatist stance emphasizes the importance of understanding the "ordinary reality" of economic and social systems, in which people and organizations operate interdependently (Sobh & Perry, 2006). This focus on the lived experiences and contextual factors shaping real-world phenomena can provide valuable, nuanced perspectives that may be obscured by more rigid, theory-driven frameworks. Crucially, the pragmatist paradigm also encourages a critical, reflexive approach to research, challenging taken-for-granted assumptions and exposing potential contradictions or inequities within social systems (Orlikowski & Baroudi, 1991; Teddlie & Tashakkori, 2009). This orientation towards social and ethical responsibility aligns

well with the growing emphasis on corporate social responsibility, sustainability, and stakeholder engagement in the marketing discipline. In the context of marketing research, the pragmatist paradigm offers a promising avenue for enriching understanding, informing practice, and driving positive change (Stahl & Brooke, 2008). By embracing a pluralistic, problem-focused approach, pragmatist marketers can leverage diverse methodological tools to generate actionable insights that address the needs and expectations of an ever-evolving consumer landscape.

Moreover, the pragmatist paradigm's emphasis on the "real world" of the marketplace and its recognition of the interdependence of social and economic systems can help marketing researchers, and practitioners develop a more holistic, contextually grounded understanding of consumer behaviour, market dynamics, and the role of marketing within broader societal structures. This dynamic, problem-solving orientation is particularly salient in an era of rapid technological change, shifting consumer preferences, and growing calls for corporate social responsibility. Pragmatist marketing research can help organizations navigate these complex, ever-changing realities, informing strategic decision-making, product development, and customer engagement initiatives. At the same time, the pragmatist paradigm's critical stance and commitment to challenging prevailing assumptions can encourage marketing researchers to consider alternative perspectives, question the status quo, and explore ways in which the discipline can contribute to more equitable, sustainable, and socially conscious business practices. The pragmatist research paradigm offers a compelling framework for marketing scholars and practitioners, providing a flexible, problem-focused approach to generating actionable insights and driving positive change. By embracing a pluralistic methodology and a critical, reflective orientation, pragmatist marketers can enhance their understanding of the complex, contest realities of the modern marketplace, and leverage these insights to develop more effective, responsible, and impactful strategies and solutions.

6.2.4 Marketing Research and Paradigms

Marketing research has been characterized by a range of philosophical paradigms, each with its underlying assumptions and approaches. The three dominant paradigms in this field are positivism, interpretivism, and pragmatism. Positivism, which has been employed by numerous marketing scholars (e.g., Narteh et al., 2013; Boso et al., 2012), is based on the belief that reality is objective, and that knowledge can be acquired through systematic observation and measurement. This paradigm aims to establish universal laws and principles that can be applied across different contexts. The positivist approach typically involves quantitative research methods, such as surveys and experiments, to test hypotheses and generate generalizable findings. In contrast, the interpretivist paradigm, as exemplified by the work of Goulding (2005), emphasizes the subjective and context-dependent nature of reality. Interpretivists believe that social phenomena, including marketing-related behaviours and processes, can only be understood through the perspectives and experiences of the individuals involved. Interpretivist research often employs qualitative methods, such as in-depth interviews and ethnographic studies, to gain a deeper understanding of the nuances and complexities of human experiences. The third dominant paradigm in marketing research is pragmatism, which has been discussed by scholars like Boateng and Boateng (2014) and Easton (2002). Pragmatists believe that the choice of research method should be guided by the research question and the practical implications of the study. This paradigm allows for the integration of both quantitative and qualitative approaches, as long as they are deemed useful in addressing the research problem at hand. Within the subject of marketing research, there is a major discussion regarding the relative prevalence of various paradigms over time.

According to some academics, there has been a change in the dominance of one research philosophy over another in recent years (Rod, 2009; Gummesson, 2005).

The discipline is still evolving, and it is acknowledged that no single paradigm can fully describe the complexity of marketing phenomena, which makes this issue significant. Positivism dominated marketing research in the early and middle of the 20th century, leading to the creation of numerous well-known ideas, models, and tenets. These positivist-based conceptualizations sought to develop rules and tactics for marketing procedures that could be used by everybody. However, over time, the limitations of the positivist approach have been recognized, particularly in its inability to fully account for the subjective and context-dependent nature of marketing processes. This has led to increasing interest in interpretivist and pragmatist approaches, which offer alternative perspectives and methodologies for understanding marketing phenomena. The philosophical assumptions underlying these different paradigms have been the focus of discussion in marketing research. Bahl and Milne (2006), for instance, have explored the philosophical foundations that guide qualitative, quantitative, and mixed-method research approaches. Similarly, Hudson and Ozanne (1988) have discussed the assumptions that underpin the pragmatist paradigm, which include the belief in an objective reality that can be measured and explained through research. The current study, as described in Chapter Three, adopted a positivist paradigm. This approach aligns to verify the conceptualization of green marketing orientation dimensions and organizational performance, which is consistent with the positivist emphasis on establishing universal laws and principles through quantitative research methods (Robson, 2011). It is important to note that the choice of research paradigm has significant implications for the design, implementation, and interpretation of a study. Positivist research, for example, typically relies on deductive reasoning and the testing of predetermined hypotheses, while interpretivist and pragmatist approaches tend to be more inductive, focusing on the exploration and understanding of phenomena in their natural contexts. To further justify the use of positivism, A positivist paradigm ensures the Pursuit of Objectivity and the Elimination of Bias because Positivism

seeks to generate knowledge that is unbiased, value-free, and separate from the researcher's personal beliefs, values, or emotions. By employing structured methodologies, standardized instruments like the questionnaires used in the study, and statistical controls, the positivist paradigm aims to ensure that the researcher, regardless of their background, would arrive at the same findings when following the same procedures. This is critical in establishing credible, trustworthy outcomes. Another reason for the use of positivism paradigm is because the study objective seeks for Clarity, Replicability, and Cumulative Knowledge Building. A positivist researcher emphasises on operationalizing variables, explicit hypothesis testing, and transparent methodology thus allowing for replication. In the event that a study's findings are questioned, other researchers can appeal the same research procedures to verify or falsify them. This process of replication and falsification is a significant source of cumulative scientific progress, allowing the social scientist ability to build a stable body of verified knowledge over time, rather than remaining a collection of subjective interpretations. Additionally, another justification for a positivist paradigm is that, the researcher sought to ensure efficiency and scope in large-scale social analysis for researching large populations or tracking societal trends thus a positivist approach is exceptionally efficient in achieving that. A positivist philosophy ensures that, quantitative data can be collected from thousands of respondents and analyzed statistically to identify patterns that would be impossible to discern through small-scale, qualitative studies alone. Thus, the positivist orientation of the researcher ensured that, data was collected collect from a sample of 160 food and beverage organisations operating in the greater region of Ghana using a structured questionnaire. In conclusion the positivist paradigm remains a backbone of social research because it ensures a systematic, transparent, and rigorous framework for examining social phenomena that require objective measurement, generalizable findings, causal explanation, and replicable results. Its methodologies are best suited to informing evidence-based policy, testing theoretical predictions, and building a cumulative

body of knowledge about the lawful regularities that structure social life. While it is not suitable for exploring the nuances of subjective experience, meaning-making, or deep contextual understanding (the domain of interpretivist/constructivist paradigms), its justified application is critical for answering a specific and vital class of research questions in the social sciences.

6.3 Research Approach

In this study, I carefully considered the three primary research approaches namely, qualitative, quantitative, and mixed methods (Hair et al., 2008; Creswell, 2009). The decision to adopt a specific approach is influenced by a range of factors, including the researcher's worldview, personal experiences, the characteristics of the research problem, and the intended audience for the study's findings (Creswell, 2009). Qualitative research is a powerful tool for exploring and understanding the meanings that individuals or groups assign to a particular issue (Creswell, 2009). In contrast, quantitative research is more focused on testing scientific theories through the use of numerical data and statistical analysis (Creswell, 2009). The mixed methods approach combines both qualitative and quantitative techniques, allowing researchers to leverage the strengths of each method and arrive at a more comprehensive understanding of the research problem (Creswell & Clark, 2007). In the context of the current study, I decided to adopt a quantitative research approach. This choice was carefully considered and was influenced by several key factors that align with the objectives and requirements of the investigation. For instance, the research questions and hypotheses at the heart of this study lend themselves particularly well to a quantitative approach.

Quantitative research is fundamentally geared towards testing and verifying relationships between variables (Zebal, 2003), which directly speaks to the aims of the current investigation. By quantitatively framing the research, the researcher can systematically examine the proposed connections and achieve a more rigorous, data-driven understanding of the phenomenon under

study. Additionally, quantitative research is often characterized by its adherence to established protocols and the assumption of reliability (Neuman, 2007). This aligns seamlessly with the goals of the current study, which seeks to contribute to the existing body of knowledge in a meaningful and reliable way. By adhering to well-developed quantitative methods, I can ensure that the procedures and findings of this investigation can be replicated and verified by other scholars, ultimately enhancing the validity and credibility of the research. Furthermore, my decision to adopt a quantitative approach was bolstered by the precedent set by similar studies within the relevant field. Previous investigations have successfully employed quantitative methods to explore comparable research questions (e.g., Mahmoud, 2016), providing a solid foundation and justification for the current study's methodological choice.

6.4 Research Design

The research design serves as the blueprint that guides the entire research process, from the broad underlying assumptions to the specific data collection and analysis techniques employed (Creswell, 2009). It is a crucial component that ensures the study's objectives are effectively achieved. According to literature, there are three primary research designs: Descriptive, Causal, and exploratory (Hair et al., 2008; Zikmund & Babin, 2010). Each design offers unique advantages and is suited to different research goals. According to Hair et al. (2008), the goal of descriptive research is to thoroughly describe the characteristics that define a target group or market setup. Alternatively, causal research aims to determine the causes and effects of variables so that decision-makers can know what factors influence particular results (Hair et al., 2008). Conversely, exploratory research aims to produce fresh perspectives and develop a deeper comprehension of a certain phenomenon or study issue (Hair et al., 2008).

This study thus adopted a descriptive research design to illustrate the impact of green marketing orientation dimensions on organizational performance in the context of Ghana's manufacturing

sector (Food and beverage industry) (Leavy, 2017). Descriptive research aims to describe the relationship between variables so that decision-makers can know what factors influence particular results (Siedlecki, 2020). Therefore, data was collected from manufacturing companies, specifically those in the food and beverage sector located in the Greater Accra, as this region hosts the largest manufacturing hub in Ghana (Asravor et al., 2025). The target population was made of senior level and middle level managers of established manufacturing companies in Ghana**.** Specifically, the primary data was captured by administering a pre-tested questionnaire to the marketing managers, operations managers and managing directors, who constitute the management and decision makers of these selected food and beverage companies in the Greater Accra Region. Data collection was done by appointment and took place on-site at each company's head office location in the Greater Accra Region of Ghana. A total of 160 questionnaires was then administered face-to-face with participants to enable the researcher to explain the study and assist with questionnaire completion with 152 post survey usable responses thus resulting in a high response rate of 95%. Hence, adopting a descriptive research design affords this study a strategic approach to systematically gather primitive data to give a detailed description of the phenomenon of interest as it naturally presents itself in the context under review (Leavy, 2017). This maximizes the potential of the study to produce results that aids in solving the objectives of the study.

6.5 Research Strategy

The research strategy employed in this study is primarily survey-based, as it aligns well with the descriptive nature of the research objectives (Creswell, 2009). Surveys are a widely recognized and commonly utilized research technique, wherein a sample of respondents is interviewed or observed to gather insights about a population (Zikmund & Babin, 2010). Several factors led to the preference of the survey method over the experimental study. First of

all, surveys are a good tool for quantifying patterns, beliefs, or opinions within a population, and this fits nicely with the objectives of the research (Creswell, 2009). According to Zikmund and Babin (2010), surveys offer a reliable, economical, and effective way to evaluate data regarding a target group. In addition, the survey approach has been widely employed in prior studies on green marketing and organizational performance (Eneizan, 2020; Fa-rms-, 2022; Gelderman et al., 2021). This provides support for the suitability of this strategy for the ongoing inquiry. A cross-sectional study design was used to accomplish the research goals. Information from a sample of the population is gathered at one specific moment for cross-sectional studies (Kuada & Hinson, 2012). This approach works well for studies that take a representative cross-section of the population into account to investigate a certain occurrence, situation, problem, attitude, or issue. The advantages of the cross-sectional approach include its relative cost-effectiveness and reduced time requirements compared to longitudinal designs (Kuada & Hinson, 2012). This approach has also been utilized in prior green marketing orientation and firm performance studies, further supporting its suitability for this research (Hinson et al., 2017). By adopting a survey-based, cross-sectional research strategy, the researcher aimed to gather comprehensive and reliable data that provides valuable insights into the key variables of interest. This methodological approach thoughtfully aligned with the descriptive nature of the study and the overall research objectives.

6.6 Sampling Design

Sampling the entire population is usually uncommon in survey research because of time and budgetary limitations. Thomas (2004) contended that it is impossible to examine the entire world with the resources at hand; only portions of it can be studied. Instead, researchers usually prefer using sampling. The process of choosing a small subset of units for research out of a larger group is known as sampling (Thomas, 2004; Earl-Babbie, 2013; Creswell, 2014).

Therefore, in this section, the study discusses the sampling design process consisting of the target population, the sampling frame, the sampling technique, the sample size, and the unit of analysis.

6.6.1 Population

The target population for this study comprised senior and middle managers (CEOs, MDs, marketing and Operations Managers) of manufacturing companies (food and beverage) in the Greater Region of Ghana. The companies adopted were drawn from the large and medium-sized enterprises located within the major industrial hubs of Ghana in the Greater Accra Region. This region hosts a significant number of food and beverage companies in Ghana according to beverage marketing corporation (BMC, 2024). Specifically, the study focused on food and beverage companies that have been in continuous operations for at least five years and above as of 2022. For feasibility, only companies headquartered within the Greater Accra region were sampled. This ensured a purposive access to data collection activities such as administering questionnaires to top managers who fit the criteria. The targeted population of top and middle managers from large and medium-sized manufacturing firms with a proven track record of success and situated within Ghana's major industrial hub of Accra and Tema provided an appropriate sample to explore factors influencing organizational performance. Again, in determining the greenness of the manufacturing organizations used for this study, certain standards were used to determine the adherence of manufacturing organizations to green marketing principles. In literature, there are several standards and certifications that are used to determine such green adherence some of which include, ISO 14001 which measures an organization's adherence to strict environmental management systems. These systems help to reduce waste, improve efficiency and comply with external regulations especially in the manufacturing and agricultural sectors of Ghana, thus demonstrating the commitment of such

organizations to environmental issues, which results in improved environmental and financial performance (Darnall et al., 2008). Another such measure is the Global Reporting Initiative (GRI) standards. These standards spell out guidelines, which allow organizations to report on their sustainability initiatives including the environment, social and governance (ESG). These standards are mostly used by banks e.g. Ecobank, and mining companies e.g. Newmont, for their sustainability reporting purposes and as a sign of their green commitment towards the environment (Hahn & Kühnen, 2013). Furthermore, the green business certification (LEED, GREEN SEAL) are certifications used mostly by building and product manufacturers to help validate their eco-friendly operations. LEED for instance is used in the building space especially by hotels and real estate organizations while seal is used to validate products from manufacturing companies (Zhang et al., 2018). The European Union's eco-management and audit schemes (EMAS) is a more stringent environmental standard used to measure an organization's environmental performance.

This certification is stricter than the ISO 14001. This standard is mostly used by multinational organization's operating in Ghana like Unilever Ghana and other such multi nationals (Testa et al., 2014). The EPA of Ghana has instituted the green business awards and has also laid down guidelines to regulate and examine green practices by organizations in Ghana (Amoako et al., 2022). But for the purposes of this study, ISO 14001 certification, Global Reporting Initiative (GRI) using ESG, green marketing standards (eco-labelling, and green packaging) and the Ghana EPA guide lines was mostly used to determine the greenness or otherwise of the organizations used in the study. In summary, green manufacturing organizations and other organization's operating in Ghana can be identified by their Certifications (ISO 14001, GRI, LEED), Regulatory compliance (EPA Ghana standards) and green marketing practice (eco-labelling, sustainable packaging).

6.6.2 Sampling Procedure/Technique

A sampling strategy is predicated on the idea that a smaller subset of a larger, defined group can be chosen and that the information obtained from this subset will enable conclusions to be drawn about the broader group (Hair et al., 2010). Maree and Van der Westhuizen (2009) states that there are two types of sampling strategies utilised in research: non-probability sampling and probability sampling. Probability sampling ensures that each member of the population has an equal chance of being selected. Examples include simple random sampling, systematic, stratified and cluster sampling. The method again ensures objective and randomized process with the aim to produce representative samples that reflects the desired population of study. Thus, results of probability sampling methods can be statistically generalized to cover the broader population often with a known margin of error. Therefore, the key distinction between probability and non-probability sampling lies in the principle of randomization and its ability to gauge sampling error. This notwithstanding, probability sampling methods comes with some weakness some of which include the fact that, sampling the entire population may be an expensive thing to do and time consuming as well. There is also a possibility of non-response bias resulting from some respondents refusing to take part in the research exercise and lastly there is also an issue of complexity in implementation as preparing for cluster or stratified sampling can be complex as it requires some advance planning.

Meanwhile non probability sampling method on the other hand allows for subjective judgement by the researcher. Thus, responses can be determined at the convenience of the researchers and respondents. This method does not allow every member of the population to be selected. Examples include convenience, purposive, snowball and quota sampling. Again, this method does not aim for representativeness in a statistical sense and so the goal is often to gain insights, not to generalize to the broader population as they are only indicative of the sample itself. Again, this method cannot be calculated or estimated because the selection process is not

random. Furthermore, this sampling method comes with some weaknesses, which include a lack of statistical generalizability owing to the subjective nature of the sample selection, which usually forms a small part of the larger population. The method also suffers from issues of limited credibility for quantitative reference because of its weakness in making statistical claims about relevance and relationship to other variables. Furthermore, the method suffers from a high risk of sampling bias because sampling is often not representative of the population owing to the selection process. In summary therefore a non-probability sampling method was selected because the researcher was not interested in generalization of the findings as the findings in this study are context dependent. Again, the population for the study was purposively selected based on a set criterion from a sample frame which did not have all the intended population registered. The choice of a non-probability sampling method was based on the research questions. Additionally, the researcher required some depth of understanding in the area of green marketing orientation, thus the selection of respondents from the population who were best suited for the study, example middle to top management, companies in operation for over 5 years etc. A fundamental presumption about the makeup of the population being studied accounts for the difference between probability and nonprobability sampling. According to Jones and Leimkuhler (2011), sampling is just the act of taking samples without the use of random selection techniques. However, for this study, respondents were selected from different trade associations coming together to form a sampling frame. Purposive sampling was then applied in the selection and subsequent administration of questionnaires for the survey that allowed the researcher to get specific information from the appropriate subjects from the different trade associations who met the purpose of the investigation. Thus, respondents were purposively selected from the Association of Ghana Industries, Ghana Beverage Association, and Ghana Export Promotion Authority. The use of a purposive

sampling technique in a quantitative study is supported by (Etikan et al., 2016; Taherdoost, 2016).

6.6.3 Sample Size

An important issue with survey research is determining the right sample size needed to make significant findings (Earl-Babbie, 2013). According to (Hair et al., 2014), a sampling size of 100 respondents is deemed sufficient for a SEM analysis, therefore this study used a sample size of 160 respondents who met the selection criteria set forth. The target population for this study was middle and senior managers such as MDs, CEOs, operations managers and marketing managers within the food beverage manufacturing companies in the Greater Accra Region of Ghana. To recruit participants, the researcher first identified a list of registered food and beverage companies in the Greater Accra Region and from the Association of Ghana industries (AGI), Ghana Beverage Association (GBA), and Ghana Export Promotion Authority (GEPA) database. From the database, the researcher selected companies located within the Greater Accra Region because the region hosts a significant number of food and beverage companies in Ghana as posited by beverage marketing corporation (BMC, 2024). From the compiled list of the various trade associations, the researcher selected 160 companies purposively and reached out to each one of them via telephone to schedule appointments. On the agreed-upon dates, the researcher visited the selected companies and was introduced as a Ph.D. candidate from the University of Ghana department of marketing and entrepreneurship. He then provided a brief overview of the study's purpose and procedures and assured them of confidentiality. Senior and middle Managers who reviewed and agreed to the terms, provided their consent by signing the consent form. In total, the researcher received consent forms from 160 managers. To check the suitability of the instrument, the first 30 respondent organizations

were used as a pilot to test the questionnaire structure, wording, and time required to complete it. According to DeVellis and Thorpe (2021), participants in a pilot test can be included in the main study if the rationale for the test was to check for the suitability of the instrument. This assertion was further supported by Hinkin (1998) who posits that, respondents in a pilot test can be added to the main study on condition that, their inclusion does not affect the result of the investigation. Therefore, after the pilot, no modifications were made to the instrument and the 30 responding organizations were added as part of the 152 usable respondents. The questionnaires were then administered face-to-face to the 160 managers who consented to participate in the main study. A total of 152 usable responses was received, achieving a 95% response rate.

6.7 Data Collection Method and Instrument Design

Interviewing, questionnaires, and observation of people or phenomena are the three primary data-gathering techniques utilized in contemporary business research (Saunders et al., 2009). Questionnaire was used as the study's instrument or data-gathering tool with scales adapted from literature on green marketing orientation. According to Willemese (2009), a well-designed questionnaire ought to consist of three main components: an administrative section, a categorization section, and the subject matter of the inquiry. All three of the previously described sections was included in a devised closed-ended structured questionnaire that was used for this investigation as can be seen in appendix1. According to Maree and Van der Westhuizen (2009), any standardized measurement device needs to have the following qualities: it must be practicable, appropriate, valid, and objective. The study's goals and the literature review informed the design of the instruments. The three sections of the face-to-face survey included demographic data about the respondents, including age of the firm, business type, position in organization, number of employees in the organization, level of education and

ISO 14001 certification. With end-anchors of one (1) for strongly disagree and seven (7) for strongly agree, the second section of the questionnaire asked about green performance and green marketing orientation. The final section included questions with end-anchors of one (1) for strongly disagree and seven (7) for strongly agree, on the role of technology adoption, social, and ecological thought, and their relationship between an organization's green marketing orientation and performance.

6.7.1 Data Sources

The data required to address the research problem in this study was obtained from primary and secondary sources in line with the recommendations of established research methodologists (Hair et al., 2008; Webb, 2000). The primary data for this study was collected from the marketing managers or operation managers or MDs, or CEOs of the various food and beverage manufacturing companies in the Greater Accra region of Ghana as target respondents. Questionnaires were administered face-to-face to 160 respondents to obtain their insights, opinions, and responses concerning the key variables of interest, enabling the researcher to collect first-hand information from companies directly involved in or knowledgeable about the phenomena under investigation (Webb, 2000). This guaranteed the relevance and timeliness of the collected data, which is crucial for effectively tackling the research questions. The study also drew upon a range of secondary data sources, such as scholarly journal articles, academic books, and electronic databases such as Google Scholar, Emerald, and Science Direct to inform the research process and provide a solid foundation and a comprehensive review of the existing literature. The secondary data provided valuable insights into the existing theoretical frameworks that are relevant to the current research problem and conceptual model as well as knowledge on the key variables of interest, including green marketing orientation dimensions, technological adoption, social and ecological thoughts, and how they impact on the

performance of organizations. This information was instrumental in shaping the research questions, developing the conceptual framework, and designing the primary data collection instrument (Webb, 2000). By drawing upon both primary and secondary data sources, the researcher aimed to ensure a well-rounded and robust data foundation for the study that directly addresses the current research problem. This multifaceted approach enhanced the overall quality, credibility, and depth of the research findings.

6.7.2 Data Collection Tools

To examine the hypothesized relationships between green marketing orientation dimensions and organizational performance, a survey questionnaire was administered to collect primary data from several carefully selected respondents in the Greater Accra Region. This data collection tool offers several advantages that make it well-suited for this investigation. For instance, survey questionnaires were used to elicit standardized responses from a large sample of participants in a timely and cost-effective manner, compared to more resource-intensive data collection methods like interviews (De Vaus & De Vaus, 2013). This approach allowed for gathering empirical evidence from a wide range of key informants, which is crucial for gaining a comprehensive understanding of the topic. By providing a structured format for responses, the questionnaire design helped to elicit more candid and reliable information from the participants. The design of the questionnaire was informed by an extensive review of the relevant literature, which helped to identify validated scales for measuring the constructs of interest which are found in appendix 2 of this study. Similarly, the operationalization of green marketing orientation dimensions was drawn from works by Chamorro and Banegil (2006), Gazquez-Abad et al. (2011) and Papadas et at. (2017) while the conceptualisation of organizational performance was drawn from scholarly works from (Dowell et al., 2023; Kumar et al., 2021) and other scholarly works from frameworks established in prior studies examining

similar phenomena (e.g., Vohora et al., 2004; Lockett et al., 2003) to ensure that the data collected aligns with the conceptual model and theoretical foundations of the study. To balance discrimination with respondent burden, the questionnaire employed a seven-point Likert scale for the survey items. This scale provides a suitable level of granularity for the respondents to express their perceptions and experiences accurately. Before the full data collection phase, the questionnaire was pretested with a group of managers (n=30). This process helped to ensure the clarity, flow, and face validity of the instrument, further aligning it with the empirical examination of the conceptual model.

6.8 Data Analysis Techniques

This study employed Partial Least Squares Structural Equation Modelling (PLS-SEM) to analyse the collected data from the study group of middle to high level managers of manufacturing organizations in greater Accra. PLS-SEM is suitable for examining complex predictive models and relationships (Hair et al., 2014) and also does not rely on the normality of the data to run an analysis. Again, SEM can run on a relatively small size (n=100). Furthermore, Smart PLS 3.0 was used to perform both the measurement model assessment and structural model testing. The measurement model evaluated individual item reliability, internal consistency, convergent validity, and discriminant validity (Hair et al., 2011). The structural model then examined the hypothesized relationships between constructs. Path coefficients indicated the strength and significance of each effect (Hair et al., 2017). Mediation analysis followed the procedure outlined by Nitzl et al. (2016) to determine direct, indirect, and total effects. Bootstrapping with 10,000 samples generated t-statistics to assess the significance of mediation (Sarstedt et al., 2023). Before PLS-SEM, the data was screened and cleaned in SPSS 27. Missing data and univariate/multivariate outliers were addressed following Hair et al.'s (2010) guidelines. Confirmatory factor analysis ensured reliable measurement before

hypothesis testing. This multi-stage analytical approach aligned with best practices for PLS-SEM recommended in the literature (Hair et al., 2011; Henseler et al., 2009). It further enabled the rigorous examination of the conceptual model and hypothesized relationships grounded in theory. Overall, PLS-SEM represents an appropriate technique, given its ability to handle complex models while maintaining statistical power with a modest sample (n=100). The stepwise procedures also facilitated robust empirical testing of the research questions.

6.8.1 Reliability Analysis

Reliability is a crucial aspect of measuring quality, referring to the degree to which a construct is measured consistently and dependably (Bhattacherjee, 2012). In this study, the internal consistency method was employed to establish the reliability of the multi-item scales used to operationalize the key constructs in the conceptual model. Cronbach's alpha is a widely recognized statistical measure used to evaluate the internal consistency of a scale (Tavakol & Dennick, 2011). This coefficient determines the extent to which the items within a scale co-vary together, indicating their ability to reliably measure the same underlying concept (Hair et al., 2010). A Cronbach's alpha value of ≥0.70 or higher is generally considered acceptable, suggesting adequate internal consistency (Nunnally, 1978). In the present study, the constructs such as green marketing orientation dimensions, organizational performance, technology adoption, and social and ecological thoughts revealed that all the scales exceeded the ≥0.70 threshold, demonstrating that the items within each construct reliably measured the same underlying concept. For instance, the 7-item MORTN scale, which was used to capture the green marketing orientation dimensions construct, achieved a Cronbach's alpha of 0.84, confirming its appropriateness for the study. In addition to the statistical analysis, a pre-test involving 30 managers from manufacturing companies was conducted to evaluate the wording, sequence, and clarity of the survey items. This process helped to refine the survey instrument

before the full data collection phase, further ensuring the reliability and validity of the measurement scales. By establishing the internal consistency of the multi-item scales, the study has validated the use of these measures to capture the constructs in the hypothesized model. This approach supports the drawing of meaningful conclusions from the quantitative analysis of the survey data, which was used to test the relationships based on the underlying conceptual framework.

6.8.2 Validity Analysis

Establishing the validity of measurement instruments was crucial, given that adapted scales were employed. Kimberlin and Winterstein (2008) define validity as the extent to which an instrument measures what it purports to measure, while Heale and Twycross (2015) define validity as the extent to which a concept is accurately measured in a quantitative study. Ogah (2013) posited that validity is best established through expert judgment. The validity of the questionnaire was ascertained by subjecting the instruments to expert review by allowing two professors from the University of Ghana Business School to cross-check and make inputs to the design of the questionnaire. Also, the construct validity of the questionnaire was established through factor analysis. The majority of the measuring tools used in this study were taken from earlier literature to guarantee the questionnaire's content validity.

The first 30 responses were used as a pilot test. They completed the survey and provided feedback on comprehension, question structure, and flow. Minor revisions enhanced validity based on target respondents' perspectives. Construct validity assesses a scale's ability to accurately measure the theoretical concept (Sekaran & Bougie, 2016). As hypothesized relationships were grounded in literature, Exploratory Factor Analysis (EFA) was conducted on pilot data to ensure items designed to measure a specific construct did indeed load together (Hair et al., 2010). Results confirmed a clear factor structure with all items loading strongly

(≥0.6) only on their intended constructs. Cross-loadings were negligible, providing evidence of discriminant and convergent validity. These rigorous validity assessment procedures ensured the measurement instruments accurately captured intended theoretical concepts for examining the impact of green marketing orientation dimensions on organizational performance. The refined scales were deemed suitable for full data collection and quantitative analysis.

6.9 Ethical Considerations

Ethical approval for this study was obtained from the University of Ghana's Ethic Committee of Humanities to uphold core ethical principles of respect for persons, beneficence, and justice (Israel & Hay, 2006), which constitute beliefs about what is right or wrong, proper or improper, good or bad in conducting research (McMillan & Schumacher, 2006). During the research, receiving informed consent was a priority. Before interviews, participants were first provided with a plain language statement outlining the study purpose, risks/benefits, data handling procedures, and their rights to withdraw or decline questions in the course of the interviews. Anonymity and confidentiality were assured by de-identifying all data before analysis. Identifiers were stored separately from responses in a secure, encrypted database. Only aggregate results were reported to preserve participants' privacy. To avoid the potential for coercion or conflict of interest, recruitment excluded any individuals under the supervision of the researcher. Participation was voluntary without incentive beyond contribution to knowledge. The research design, tools and procedures were reviewed by the research ethics committee of humanities to ensure cultural sensitivity when engaging stakeholders with different worldviews. Their feedback helped refine the approach. Overall, this study was conducted with integrity and transparency to respect participants and earn their trust. The findings are aimed at advancing understanding and benefiting society in an ethical manner

consistent with our discipline's core values. Continual reflexivity ensured these principles guided all aspects of the research process.

6.10 Chapter Summary

In this chapter, the research methods used in the study, including the data collection tools and the decision regarding data analysis techniques employed, was addressed. Additionally the chapter discussed the various philosophical paradigm and assumptions of management research available and the reasons for selecting the positive paradigm as used in this study. The rationale for selecting specific methods, such as questionnaires was provided, highlighting its suitability for addressing the research objectives. Additionally, the use of Structural Equation Modelling (SEM) and the Smart PLS software for data analysis was explained to emphasise their benefits and relevance to the research context. To ensure the validity and reliability of the study's results, this chapter explained the bridge between the preceding theoretical discussion and the methods applied in collecting the empirical data.

CHAPTER SEVEN

PRESENTATION OF EMPIRICAL DATA AND ANALYSIS

7.0 Chapter Overview

The preceding chapter brought to light methodological issues relating to the Study. It also highlighted the three theories that formed the basis of the study and finally the statistical tools used in the analysis of data. This chapter presents findings of the statistical analysis which is organised as follows: Section 7.1 presents the descriptive statistics of the respondents and constructs. Section 7.2 explains statistics relating to the exploratory factor analysis. Section 7.3 explains the measurement model. Section 7.4 on the other hand explains the structural model with the help of Partial Least Square Structural Equation Modelling (PLS-SEM). Section 7. 5 provides analysis of both the mediation and moderation analysis on the impact on green marketing orientation dimensions on organizational performance.

7.1 Descriptive Statistical Analysis

Here the study brings to light both the construct and the organizational characteristic resulting from the questionnaire.

Table 7.1: Demographic Profile and Firm Characteristics

Respondent Demographics	Frequency	Percent (%)
Age of your firm in years		
1 to 5	74	48.7
11 to 15	19	12.5
16 to 20	9	5.9
6 to 10	36	23.7
Above 20	14	9.3
Business ownership type		
Domestic	138	90.8
Foreign	14	9.2
Your position in the firm		
Lower Level	13	8.6
Middle Level	56	36.8
Top Level	83	54.6
The legal form of the business		
Limited Liability Company	27	17.8
Partnership	30	19.7
Sole Trader	95	62.5
Respondent Demographics	**Frequency**	**Percent (%)**
How many employees does your firm have?		
1 to 50	122	80.3
101 to 500	6	3.9
501 to 1000	2	1.3
51 to 100	21	13.8
More than 1000	1	0.7
Educational qualification		
First Degree	79	52
HND	47	30.9
Masters	18	11.8
WASSCE	8	5.3
Firm ISO 14001 certified		
No	75	49.3
Yes	77	50.7
Total	**152**	**100**

From the results of the usable sample of 152 respondents it was found that, firms in operations for a period of between 1 to 5 years had the highest percentage of 48.7. This finding was valuable to the study because, one of the requirements of the study was to have responding organizations to have been in operation for 5years. The high score of 48.7% thus supposes that, the study was conducted on the intended respondents. This was then followed by those in

operation between 6 and 10 years representing 23.7%. However, the results also show a low of 5.9% for firms that have been in operations between 16 to 20 years.

However, regarding type of business, the results revealed that 138 of the organizations under study representing 90.8% of the businesses were locally owned. Again, the results of 138 responding organization corresponding to 90.8% lends credence to the fact that, the context of the study is Ghana and adds value to the work as the focus of study was to investigate food and beverages organizations in Ghana, particularly those that are locally owned. Furthermore, 14 out of the 152 organizations studied representing (9.2%) were foreign owned. This implies that the majority of the organizations under study had Ghanaian ownership. Regarding designations of respondents in the various organizations studied, it was revealed that respondents in top managerial roles numbered 83 equivalent to 54.6%. Again, one of the key inclusion criteria was to have representatives of the responding organization being in a senior managerial role. Thus, having a high percentage of 54.6% of respondents being top management meets this criterion. However, those in the middle and lower levels represented 36.8% and 8.6% respectively. The above results indicate that respondents best fit to answer the questionnaire were the ones who responded. In terms of legal standing of the selected organizations, the results revealed that 95 organisations representing 62.5% were registered as sole traders while those registered as partnerships and limited liability represented 19.7% and 17.8% respectively. This supposes 62.5% of organisations interviewed were being run by sole proprietors, implying that decisions on green initiative can be made easily within such organizations. Regarding staff as employed by the organizations interviewed, it was revealed that 122 organizations employed a minimum of 50 people, representing 80.3%. Again, this result affirms the fact that the study meets the inclusion criteria of having responding organizations employing >50 employee with a score of 80.3%. This therefore presuppose that; the organizations met the inclusion criteria of the study. The second organization however employed between 51 and 1000 people,

representing 13.8%. Meanwhile, the lowest employed between 501 and 1000 people representing 1.3%. This result implies that the majority of the organizations under study employed more than the requirement 50 people. Regarding educational level of respondents, it was found that the majority of the respondents, 79, had obtained a minimum of a first degree representing 52%. This was followed by 47 respondents representing 30.9% who obtained a minimum of HND, with respondents with a master's and WASSCE following with 11.8% and 5.3% respectively. Organizations were also asked about their international certification status, ISO 14001. 77 organizations representing 50.7% responded in the affirmative while 75 organizations representing 49.3% said they did not have any international certification.

7.1.2 Construct Descriptive Analysis

This part of the research report detailed the mean scores, standard deviations, skewness, and kurtosis of the constructs of green marketing orientation dimensions which has been conceptualised as Strategic green marketing orientation, (SGMO), Operational green marketing orientation (OGMO), and Tactical green marketing orientation (TGMO) and how they together impact on organizational performance. To determine fit of constructs, a normality test was conducted using the skewness and kurtosis result as a guide.

The general principle in normality testing is that skewness should be around zero, that is, between -3 and +3 (Blanca et al., 2013); and kurtosis between -2 and +2 as posited by (George & Mallery, 2010). According to Castro and Martins (2010), a mean of >3.2 is a good indicator to distinguish between positive and potential negative perceptions. This implies that a mean score above >3.2 indicates a positive perception, while a mean score below <3.2 indicates a negative perception of the scales and their dimensions. Tables 7.2, 7.3. 7.3 and 7.4 indicates SGMO, OGMO and TGMO together with their descriptive statistic of the stated variables. From the descriptive, all constructs have a mean score greater than >3.2, i.e. a highest of 6.296

and a lowest of 4.612, indicating a positive perception of the scales and their dimensions are shown below.

Table 7.2: Descriptive statistics for Green Marketing Orientation dimensions

Questions	Constructs	Mean	SD	Excess Kurtosis	Skewness
Our firm redesigns delivery processes and production processes to reduce pollution	TGMO1	5.888	1.259	3.715	-1.683
Our firm reprocesses raw materials and by-products to minimize pollution	TGMO2	5.974	1.186	2.973	-1.525
Our firm promotes and displays eco-labels and certifications on our products to communicate their environmental attributes	TGMO3	4.612	2.161	-1.307	-0.500
Our firm encourages consumers to make environmentally responsible choices through our marketing campaigns	TGMO4	6.204	1.041	8.416	-2.363
Our firm incorporates environmental issues at the strategic level to obtain unique sustainable competitive advantages	TGMO5	6.151	0.972	6.125	-1.830
Our firm actively promotes recycling and encourages consumers to properly dispose of our packaging materials.	TGMO6	6.250	0.797	0.955	-0.956
We prioritize energy-saving measures, such as energy-efficient equipment or lighting	TGMO7	5.737	1.163	-0.532	-0.588
Our firm complies with government regulations related to environmental protection on a daily basis	OGMO1	6.243	0.835	0.676	-0.965
Our firm considers market demand for environmentally friendly products in its operations	OGMO2	6.283	0.823	0.175	-0.856
Our firm aims to develop a good ethical image through our operations	OGMO3	6.296	0.759	-0.681	-0.649
Our firm transfers green innovation technology and knowledge to reduce external costs	OGMO4	5.724	1.193	-0.440	-0.577
Our firm believes that adopting green operational strategies can lead to sustainable competitive advantages	OGMO5	5.711	1.104	-0.454	-0.471
Our firm actively seeks feedback and input from stakeholders to improve our green marketing strategies	OGMO6	5.684	1.211	0.365	-0.831
Our firm actively incorporates environmental concerns into our strategic planning	SGMO1	4.967	1.274	-0.155	-0.458

Our firm prioritizes sustainable sourcing practices for materials used in our production processes.	SGMO2	5.158	1.193	-0.384	-0.427
Our firm actively seeks to reduce its negative impact on the environment caused by its business activities	SGMO3	5.112	1.259	-0.252	-0.433
Our firm implements pollution prevention measures to minimize environmental pollution	SGMO4	5.414	1.227	-0.539	-0.491
Our firm focuses on product management to ensure environmentally friendly practices	SGMO5	5.243	1.181	-0.503	-0.242
Our firm utilizes clean technology to reduce waste and improve the environment	SGMO7	5.105	1.247	-0.254	-0.448
Our firm actively seeks feedback and input from stakeholders to improve our green marketing strategies	SGMO8	5.257	1.227	-0.283	-0.459

Source: Field Research (2024)

Results from the field research were recorded on a Likert scale ranging from 1 indicating (strongly disagree) to 7 (strongly agree). Results from table 7.2 indicate that, Operational green marketing orientation (OGMO3) had the highest mean score of (M= 6.296; SD= 0.759) while Tactical green marketing orientation (TGMO3) represented the lowest mean score of (M=4.612; SD= 2.161). From the score of the field research, it can be deduced that, the results for all the green marketing orientation constructs were generally above the recommended mean scores of >3.2 and thus, the data was spread close to the mean. The skewness and kurtosis values for the green marketing orientation dimensions were -0.242 and 8.416, respectively, indicating that the scores were normally distributed around the mean.

Table 7.3: Descriptive statistics for Organizational Performance (OP)

Questions	Constructs	Mean	SD	Excess Kurtosis	Skewness
Our firm has clearly defined objectives to reduce carbon emissions in its production processes.	PERF1	5.039	1.455	-0.974	-0.328
Our firm sets specific targets to decrease greenhouse gas emissions associated with our products and processes	PERF2	4.974	1.371	-0.958	-0.169
Our firm regularly monitors and reports its carbon emissions to ensure progress towards reduction goals.	PERF3	4.941	1.488	-0.589	-0.418
Our firm invests in technologies and practices to minimize carbon emissions throughout the supply chain	PERF4	5.000	1.482	-0.883	-0.355
Our firm aims to minimize water wastage in the production of our products	PERF5	4.428	2.054	-1.168	-0.452
Our firm has set targets to reduce the amount of water consumed per unit of the products manufactured	PERF6	5.809	1.128	1.458	-1.116
Our firm actively implements water conservation measures to prevent unnecessary water wastage	PERF7	5.678	1.184	0.553	-0.959
Our firm regularly assesses and improves water management practices to achieve sustainability objectives	PERF8	5.263	1.375	-0.183	-0.592
Our firm has established goals to reduce energy consumption in the production and distribution of our products	PERF9	5.592	1.161	0.968	-0.915
Our firm implements energy-efficient technologies and processes to minimize energy usage	PERF10	5.599	1.194	0.935	-0.963
Our firm invests in renewable energy sources to decrease reliance on non-renewable energy	PERF11	5.697	1.187	0.583	-0.848
Our firm continuously evaluates and updates energy management practices to meet sustainability targets	PERF12	5.414	1.355	0.925	-0.916

Source: Field Research (2024)

Table 7.3 represents mean scores and standard deviation for organizational performance results as indicated. From the results, the integrated organizational performance scales saw the highest mean score of (M=5.809; SD=1.455) for the question PERF6 and the lowest integrated score of M=4.428; SD=2.054) for the question PERF5 with the highest and lowest score of 5 and 1, respectively. The results show that the scores for the OP were generally above average and that the data was spread close to the mean. Both skewness and kurtosis values indicate that the scores were normally distributed around the mean (-0.169 to -1.116) and (-0.183 to 1.458)

Table 7.4: Descriptive Statistics for Technology Adoption (TA)

Questions	Constructs	Mean	SD	Excess Kurtosis	Skewness
Our firm has adopted energy-efficient manufacturing technologies	TA1	5.546	1.312	0.300	-0.931
This firm has adopted production processes that avoid raw material waste and high energy consumption	TA2	5.618	1.282	0.640	-1.033
Our firm has implemented water conservation technologies to reduce water usage in our production processes	TA3	5.658	1.241	1.000	-1.096
Our firm utilizes technology-driven packaging solutions to reduce environmental impacts	TA4	5.500	1.323	0.038	-0.775
Our firm utilizes technology solutions to optimize our supply chain and reduce environmental impacts	TA5	5.461	1.277	0.232	-0.764
Our firm utilizes digital marketing and communication technologies to promote our green marketing initiatives	TA6	5.125	1.388	-0.284	-0.465
Our firm utilizes data analytics and performance monitoring technologies to track and improve our environmental performance	TA7	5.066	1.476	0.099	-0.660

Source: Field Research (2024)

From (Table 7.4), the results of technology adoption (TA) which presents a mediator had TA3 representing the highest mean score of (M = 5.658; SD = 1.241) while the lowest was TA7 presenting the lowest mean score of (M=5.066; SD=1.476). The results show that the scores for TA were generally above average and that the data was spread close to the mean. Both skewness and kurtosis values (-0.465 to -1.096) and (-0.284 to 1.000) indicate that the scores were normally distributed around the mean.

Table 7.5: Descriptive Statistics for Social and Ecological Thought (SET)

Questions	Constructs	Mean	SD	Excess Kurtosis	Skewness
Our firm is familiar with Social Ecological Thought and actively seeks information and resources related to it to enhance and contribute to our green marketing efforts	SET1	4.658	2.146	-1.104	-0.637
Our firm incorporates Social Ecological Thought principles into its sustainability strategy	SET2	4.612	2.161	-1.196	-0.598
Our firm seeks collaborative opportunities with stakeholders to address social and ecological challenges in the industry	SET3	5.178	1.923	-0.135	-1.074
Our firm promotes equity and social justice in our business practices and interactions	SET4	5.678	1.445	2.727	-1.708
Our firm actively seeks innovative solutions to protect and restore the environment in line with Social Ecological Thought principles	SET5	5.816	1.269	2.990	-1.657
Our firm recognizes the importance of building resilience and adapting to changing environmental and social conditions	SET6	5.895	1.220	5.075	-2.057
Our firm actively promotes educational initiatives to enhance understanding of Social Ecological Thought principles	SET7	5.546	1.404	2.855	-1.672
Our firm demonstrates a commitment to environmental stewardship by minimizing our ecological footprint	SET8	5.441	1.380	2.272	-1.514

Source: Field Research (2024)

From (Table 7.5), results on social and ecological thought (SET) saw SET6 having the highest mean score of (M=5.895; SD=1.220) while SET2 represented the lowest score of (M=4.612; SD=2.161). The results show that the scores for the SET were generally above average and that the data was spread close to the mean. Both skewness and kurtosis values (-0.598 to -2.057) and (-0.135 to 5.075) indicate that the scores were normally distributed around the mean. Generally, the overall mean scores of the three main constructs of green marketing orientation dimensions representing the independent variable and organizational performance representing the dependent variable all had mean scores above the cut-off point of >3.2, it is thus evident that the sample had a positive perception for both the independent and dependent variables. The same can be said of the mediator variable (TA) and the moderator variable (SET).

7.2 Factor Loadings Analysis

To determine the suitability of the data and the constructs used in this research project, the study conducted a reliability and validity test using confirmatory factor analysis (CFA). PLS SEM 3.0 software was used to perform the confirmatory factor analysis.

Table 7.6: Item Loadings, Average Variance Extracted Cronbach alpha and Composite reliability of constructs for Green Marketing Orientation Dimensions

Items	Loadings	Cronbach's Alpha	rho_A	CR	AVE
		0.830	**0.910**	**0.850**	**0.560**
OGMO1	0.410				
OGMO2	0.520				
OGMO3	0.450				
OGMO4	0.920				
OGMO5	0.890				
OGMO6	0.820				
		0.950	**0.950**	**0.960**	**0.760**
SGMO1	0.810				
SGMO2	0.890				
SGMO3	0.880				
SGMO4	0.840				
SGMO5	0.910				
SGMO7	0.900				
SGMO8	0.880				
		0.860	**0.890**	**0.890**	**0.560**
TGMO1	0.850				
TGMO2	0.850				
TGMO3	0.480				
TGMO4	0.790				
TGMO5	0.840				
TGMO6	0.840				
TGMO7	0.480				

Source: Field Research (2024)

According to Hair et al. (2010), a Cronbach's Alpha score above >0.70 is deemed adequate thus, indicating the reliability of the constructs under study. From the table 7.6, the Cronbach's Alpha score of the constructs, Strategic green marketing orientation (SGMO), Operational green Marketing orientation (OGMO) and Tactical green marketing orientation (TGMO) all had scores above the recommended desired value of > 0.70, indicating that the constructs are reliable. Furthermore, the Composite reliability scores as shown in Table 7.6 indicate scores ranging from 0.860 (TGMO) to 0.950 (SGMO). These score values are above the >0.70 minimum thresholds recommended by Hair et al. (2010), indicating high internal consistency of the measurements. Again, the average variance extracted (AVE) score for all the constructs of SGMO, OGMO and TGMO were all above the recommended threshold of >0.50 as recommended by Hair et al. (2017). However, the highest loadings were OGMO4 (0.920) while the lowest was OGMO1 (0.410). Again, the highest loadings were SGMO7 (0.900) while the lowest was SGMO1 (0.810). Lastly, the highest loadings were TGMO2 (0.850) while the lowest were TGMO3 and TGMO7 with values of (0.480). According to Hair et al. (2014), scores > 0.40 or >0.69 are considered suitable and thus reliable. This means that the loadings for the constructs are fit and reliable. Finally, the rho_A score was all above the minimum score of >0.70 considered by Hair et al. (2010) as a suitable threshold for any reliability testing.

Table 7.7: Item Loadings, Average Variance Extracted Cronbach alpha and Composite reliability of constructs for Organizational Performance

Items	Loadings	Cronbach's Alpha	rho_A	CR	AVE
		0.910	**0.920**	**0.930**	**0.520**
PERF1	0.680				
PERF10	0.840				
PERF11	0.630				
PERF12	0.650				
PERF2	0.740				
PERF3	0.750				
PERF4	0.750				
PERF5	0.570				
PERF6	0.700				
PERF7	0.780				
PERF8	0.710				
PERF9	0.800				

Source: Field Research (2024)

Again, loadings for all questions on organizational performance (PERF) were above the recommended threshold of > 0.40 as recommended by Hair et al. (2014). However, according to Hair et al. (2010), a Cronbach's Alpha score above >0.7 is deemed adequate and thus, indicating the reliability of the constructs under study. From the table 7.7, the Cronbach's Alpha score of the outcome variable performance were all above the recommended threshold of > 0.70 as shown in the table above, which indicates the highest score of 0.910. Again, the rho_A score of 0.910 is also above the recommended threshold of >0.70 as recommended by Hair et al. (2010). The composite reliability (CR) score of 0.930 again is above the recommended threshold deemed suitable by Hair et al. (2010). Furthermore, the Average variance extracted score of 0.520 is within the recommended value of >0.50 as recommended by Hair et al. (2017).

Table 7.8: Item Loadings, Average Variance Extracted Cronbach alpha and Composite reliability of constructs for Social and Ecological Thought (SET)

Items	Loadings	Cronbach's Alpha	rho_A	CR	AVE
		0.770	**0.790**	**0.850**	**0.530**
SET1	0.500				
SET2	0.590				
SET3	0.590				
SET4	0.700				
SET5	0.780				
SET6	0.710				
SET7	0.580				
SET8	0.540				

Source: Field Research (2024)

From the above scores in table 7.8, it can be found that all the loadings of questions on social and ecological thought (SET) were within the stipulated >0.4 or > 0.69 as recommended by Hair et al. (2014). From the table, the highest loading was 0.780 (SET 5) while the lowest was 0.500 (SET 1). Hair et al. (2010) posit that, a Cronbach's Alpha score above >0.7 confirms the reliability of constructs under study. From Table 7.8, the Cronbach's Alpha score of the moderating variable (SET) was above the recommended threshold of > 0.70 as can be seen in Table 7.8, which indicates a score of 0.770. The rho_ A score on the other hand had a score of 0.790 which is also above the recommended threshold of >0.70 as recommended by Hair et al. (2010). The composite reliability (CR) score of 0.850 again was above the recommended threshold deemed suitable by Hair et al. (2010). Furthermore, the Average variance extracted score of 0.530 was again within the recommended value of >0.50 as recommended by Hair et al. (2017).

Table 7.9: Item Loadings, Average Variance Extracted Cronbach alpha and Composite reliability of constructs for Technology Adoption

Items	Loadings	Cronbach's Alpha	rho_A	CR	AVE
		0.930	**0.930**	**0.940**	**0.700**
TA1	0.870				
TA2	0.840				
TA3	0.870				
TA4	0.890				
TA5	0.890				
TA6	0.780				
TA7	0.680				

Source: Field Research (2024)

According to Hair et al. (2014), a loading score of > 0.50 can be considered suitable for reliability testing. Thus, the loading score on Table 7.9 with a lowest score of TA7 (0.680) and the Highest score of TA4 0.890 and TA5 0.890 respectively are within the recommended threshold by Hair et al. (2014). Again, according to Hair et al. (2019) a Cronbach's Alpha score above >0.70 confirms the reliability of constructs under study. Therefore, the Cronbach's Alpha score of 0.930 falls within the acceptable reliability range of the questions under the mediating variable. Again, the same consideration is required for rho_A scores which must also be within the acceptable range of >0.70. Thus, a score of 0.930 is considered reliable. The composite reliability score of 0.940 as shown in Table 7.9 is also considered reliable as per Hair et al. (2010). However, the Average Variance Extracted (AVE) score of 0.700 is within the recommended limit of >0.50 as posited by Hair et al. (2017). In summary, all constructs have fallen within the accepted thresholds of the measurement criterion as recommended for reliability testing. Once the iteration process is completed, the final model is checked for discriminant validity based on Fornell and Larcker, cross loadings and the Heterotrait-Monotrait (HTMT) approaches as provided in the table below.

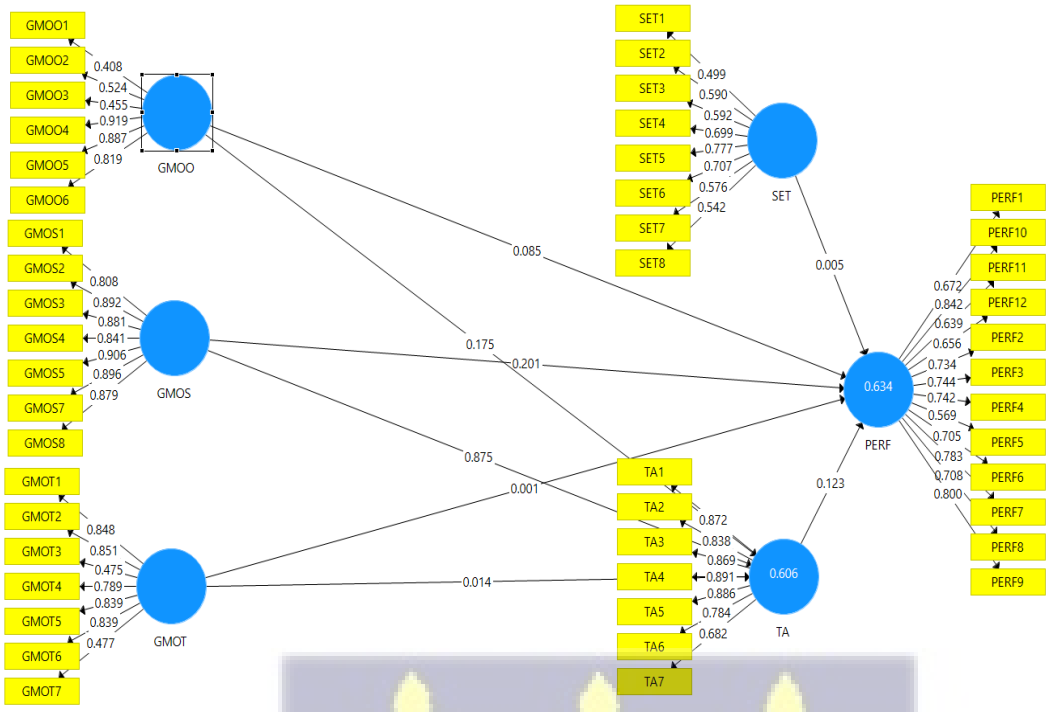

Figure 7.1: Measurement model

Note: Boxes = indicators; Circles = Sub-construct; Lines/Arrows = Paths

7.3 Discriminant Validity Tests

In this section, the discriminant validity of all dimensions of the six constructs was analysed. In scientific research, there are three approaches to examining the discriminant validity of the constructs in a research work. These are through the Fornell and Larcker criterion, the cross loadings and the Heterotrait-Monotrait (HTMT) approach as would be applied in this study. Results using the three approaches are depicted in Tables 7.6, 7.7, 7.8 and In Table 7.9. We start with the discriminant validity of the latent variables using the Fornell-Larcker criterion reported below.

Table 7.10: Fornell and Larcker Criterion of Discriminant Validity

Fornell Larcker

	OGMO	SGMO	TGMO	PERF	SET	TA
OGMO	**0.750**					
SGMO	0.270	**0.870**				
TGMO	-0.210	-0.280	**0.750**			
PERF	0.460	0.710	-0.250	**0.720**		
SET	-0.030	-0.260	0.170	-0.240	**0.730**	
TA	0.460	0.720	-0.310	0.730	-0.200	0.830

Source: Field Research (2024)

From Table 7.10, the square roots of the Average Variance Extracted (AVE) scores are indicated along the diagonals while the scores below the diagonals show the correlations between the constructs under study i.e. SGMO, OGMO, TGMO representing the independent variables and PERF, SET and TA representing the dependant, moderator and mediator variables respectively. From the table, all figures on the diagonals are greater than the figures below them, which shows that discriminant validity is assured. According to Hair, Sarstedt, Ringle and Mena (2012), discriminant validity using the Fornell-Larcker criterion at the construct level can be arrived at if the square-root of the AVE is greater than the highest correlation between the latent variable and the other constructs. The following table will highlight the discriminant validity of the latent variables using the cross-loading criterion.

Table 7.11: Cross Loading Criterion of Discriminant Validity of Latent Variables

Cross loadings

	OGMO	SGMO	TGMO	PERF	SET	TA
OGMO2	**0.530**	-0.020	-0.070	0.100	-0.070	0.070
OGMO3	**0.460**	-0.090	-0.090	0.030	-0.030	0.070
OGMO4	**0.920**	0.220	-0.160	0.470	-0.030	0.420
OGMO5	**0.890**	0.350	-0.180	0.430	-0.030	0.460
OGMO6	**0.820**	0.190	-0.230	0.350	0.010	0.370
SGMO1	0.220	**0.810**	-0.190	0.560	-0.230	0.610
SGMO2	0.180	**0.890**	-0.210	0.600	-0.220	0.610
SGMO3	0.290	**0.880**	-0.270	0.670	-0.210	0.670
SGMO4	0.190	**0.840**	-0.280	0.560	-0.180	0.660
SGMO5	0.220	**0.910**	-0.260	0.590	-0.250	0.640
SGMO7	0.240	**0.900**	-0.220	0.690	-0.270	0.610
SGMO8	0.300	**0.880**	-0.260	0.670	-0.200	0.620
TGMO1	-0.180	-0.270	**0.850**	-0.220	0.170	-0.290
TGMO2	-0.150	-0.190	**0.850**	-0.170	0.140	-0.260
TGMO3	-0.020	-0.120	**0.480**	-0.120	0.090	-0.200
TGMO4	-0.170	-0.270	**0.790**	-0.240	0.090	-0.230
TGMO5	-0.250	-0.200	**0.840**	-0.200	0.110	-0.230
TGMO6	-0.150	-0.240	**0.840**	-0.200	0.210	-0.260
TGMO7	-0.210	-0.080	**0.480**	-0.050	-0.060	-0.030
PERF1	0.110	0.640	-0.110	**0.680**	-0.260	0.430
PERF10	0.520	0.540	-0.200	**0.840**	-0.150	0.660
PERF11	0.550	0.390	-0.250	**0.630**	-0.090	0.570
PERF12	0.350	0.350	-0.130	**0.650**	-0.180	0.500
PERF2	0.180	0.620	-0.170	**0.740**	-0.270	0.500
PERF3	0.220	0.620	-0.150	**0.750**	-0.230	0.490
PERF4	0.190	0.600	-0.200	**0.750**	-0.220	0.490
PERF5	0.260	0.490	-0.300	**0.570**	-0.210	0.390
PERF6	0.400	0.410	-0.140	**0.700**	-0.160	0.510
PERF7	0.360	0.580	-0.190	**0.780**	-0.120	0.650
PERF8	0.380	0.400	-0.140	**0.700**	-0.130	0.500
PERF9	0.420	0.470	-0.140	**0.800**	-0.110	0.530

Cross loadings						
SET4	-0.030	-0.220	0.230	-0.200	**0.770**	-0.210
SET5	-0.060	-0.210	0.160	-0.210	**0.830**	-0.130
SET6	0.010	-0.150	0.200	-0.150	**0.790**	-0.130
SET7	0.080	-0.180	-0.070	-0.130	**0.620**	-0.140
SET8	-0.050	-0.160	0.030	-0.180	**0.600**	-0.130
TA1	0.340	0.680	-0.330	0.630	-0.210	**0.870**
TA2	0.340	0.640	-0.290	0.560	-0.140	**0.840**
TA3	0.380	0.610	-0.280	0.630	-0.130	**0.870**
TA4	0.450	0.620	-0.270	0.640	-0.190	**0.890**
TA5	0.410	0.610	-0.250	0.640	-0.130	**0.890**
TA6	0.390	0.530	-0.250	0.600	-0.210	**0.780**
TA7	0.390	0.540	-0.130	0.540	-0.180	**0.680**

Source: Field Data 2024

Table 7.11 reveals that outer loading of each indicator was greater on its respective latent variable than its cross-loadings on any other latent variables. This also confirms that discriminant validity was achieved. In Table 7.12, the discriminant validity of the latent variables using the Heterotrait-Monotrait Ratio (HTMT) analysis criterion is reported.

Table 7.12: Results of Heterotrait-Monotrait Ratio (HTMT) Analysis Criterion of Discriminant Validity

HTMT						
	OGMO	SGMO	TGMO	PERF	SET	TA
OGMO						
SGMO	0.260					
TGMO	0.250	0.290				
PERF	0.500	0.760	0.290			
SET	0.110	0.300	0.240	0.290		
TA	0.420	0.770	0.330	0.790	0.240	

Source: Field Research (2024)

The HTMT criterion is said to be the latest criteria for evaluating discriminant validity thus the Heterotrait-Monotrait (HTMT) ratios were considered to determine the validity of the constructs under study. Results from table 7.12 revealed that all HTMT values were below the threshold of <0.85 (Henseler et al., 2015) or 0.90 (Hair et al., 2013) thus confirming that discriminant validity was achieved.

7.4 Structural Model Assessment (Analysis of Green Marketing Orientation Dimensions Predicting Organizational Performance (OP)

This section presents the PLS-SEM results on the analyses of three dimensions of GMO dimensions predicting an integrated organizational performance variable. That is, the influence of Strategic green marketing orientation (SGMO), Operational green marketing orientation (OGMO) and Tactical green marketing orientation (TGMOT) on organizational performance and the mediating role of Technology adoption (TA) on the relationship between green marketing orientation dimensions and lastly, how the social and ecological thought (SET) of the organization may moderate the relationship. To assess the structural model, collinearity, model fit (SRMR), predictive power and relevance checks were done. This is in line with the structural model assessment procedure outlined by Henseler et al. (2016), Hair et al. (2019) and Usakli and Kucukergin (2018).

7.5 Collinearity Checks

According to Hair et al. (2019), variance inflation factor (VIF) values above 5 are indicative of probable collinearity issues among the predictor constructs, but ideally, the VIF values should be close to 3 and lower. Table 7.12 shows the VIF statistics.

Table 7.13: Results of VIF

VIF		
	PERF	**TA**
OGMO	1.300	1.100
SGMO	2.190	1.140
TGMO	1.140	1.110
PERF		
SET	1.090	
TA	2.540	

Source: Field Research (2024)

As shown in Table 7.13, all the VIF values are below the more conservative threshold of 3.3 (Diamantopoulos & Siguaw, 2006), indicating that collinearity is not at critical levels.

7.5.2 Model Fit

According to the recommendation of Henseler et al. (2016), the model fit assessment was done using the standardised root mean square residual (SRMR) factor model. (Hu & Bentler, 1998; Fındıklı et al., 2015) posit that the fit indices of SRMR must be smaller than <0.08 and that the fit index of< 0.08 must be met before the hypotheses of the proposed model can be tested. The model fit index is presented in Table 7.14 below

Table 7.14: Model Fit Index

MODEL FIT		
	Saturated Model	**Estimated Model**
SRMR	0.100	0.100
d_ULS	8.570	8.570
d_G	3.310	3.310
Chi-Square	2407.180	2406.960
NFI	0.610	0.610

Source: Field Research (2024)

From the model, the SRMR as shown on Table 7.14 was 0.100 which is more than the recommended threshold of <0.08 as recommended by (Hu & Bentler, 1998). However, Kline (2016) posits that, an SRM R score of ≤0.100 suggest the model is able to adequately reproduce the observed covariance. This implies that the hypotheses of the proposed model can be tested and so suggest a good fit for the model.

7.6. Model Predictive Power and Predictive Relevance

In determining the model predictive power and predictive relevance, the R^2 and Q^2 criteria was used to evaluate the relevance of the structural model (Chin, 1998). The R^2 as used in the analysis is used to measure the amount of variance in the dependent variable that can be accounted for by the independent variable(s). The R^2 thus ranges from 0 to 1, with higher levels indicating more predictive accuracy. Scholars like Fornell et al. (1994) and Chin (1998), posit that, if this test criterion is larger than 0, the model is considered to have predictive validity, otherwise, the model cannot be granted predictive relevance. As a rule of thumb, R^2 values of 0.75, 0.5, and 0.25 may be considered as being substantial, moderate and weak, respectively (Hair et al., 2012). Each dependent variable should have an R^2-value ≥ .20 (Sanchez, 2013). Blindfolding was used to cross-validate the model's predictive relevance for each of the individual dependent variables, the Stone-Geisser Q^2 value (Geisser, 1975; Stone, 1974), the R^2 coefficient and predictive relevance (Q^2) are shown in Table 7.15. However, for this analysis, only the R^2 values will be reported.

Table 7.15: Coefficient of determination (R2)

	R Square	R Square Adjusted
PERF	0.640	0.620
TA	0.610	0.600

Source: Field Research (2024)

The endogenous variable of the study is performance. Table 7.15. indicates R^2 Value of 0.640 for organizational performance (OP) and 0.610 for technology adoption (TA). Considering the rule of thumb for measuring the Coefficient of determination (R^2) suggested by Hair et al., (2014), where values of 0.75, 0.50 and 0.25 represents substantial, moderate and weak predictive relevance respectively, the results thus suggest that the combined exogenous variables account for 64% of the endogenous factor variations thus suggesting a moderately strong predictive relationship between organizational performance and the implementation of green marketing orientation dimensions. It further suggests that, the coefficient of determination of the data gathered from the field is moderate. Furthermore, the results indicates that, the exogenous variables in the model explains approximately 61% of the variations in technology adoption (TA) indicating a moderately to strong predictive relevance of the relationship between technology adoption and Organizational performance. Thus, the total combined exogenous variance accounts for 61% of Technology adopting thus suggesting that there is moderate to strong relationship between the role technology places in the relationship between green marketing orientation (GMO) dimensions and organizational performance (OP).

Table 7.16: F-Squared

	PERF	TA
OGMO	0.080	0.170
SGMO	0.210	0.880
TGMO	0.000	0.010
PERF		
SET	0.010	
TA	0.120	

Source: Field Research (2024)
Note: Small: 0.0 < Q2 effect size < 0.15; Medium: 0.15 <

The next step after assessing the co-efficient of determination (f^2) is assessing the effect of each independent variable on the dependent variable. The variations in the f^2 arise because of the removal of a particular variable from the model which is called the effect size. The effect size is estimated by employing Cohen's effect size (f^2) to measure the relative importance of the predictor in explaining the dependent variables. The f-square value speaks to the practical imperatives of each of the independent variables i.e., strategic green marketing orientation, tactical green marketing orientation and operational green marketing orientation (SGMO, TGMO, OGMO) on the dependent variable organizational performance (PERF). From the table however, it shows that, TGMO has no practical impact on performance. Again, results as shown from the table, revealed that, SGMO presented a moderate to substantial practical impact on PERF whereas TA showed a weak to moderate impact on Performance. Additionally, OGMO had a weak practical impact on performance while SET and TGMO showed a negligible and zero practical impact on performance respectively. These interpenetration stems from a rule of thumb proposed by Cohen (1988) where a f square value of ≥ 0.02 means a weak effect size, f square value of ≥ 0.15 represents moderate effect size and f square value of ≥ 0.35 means a substantial effect size. Therefore, to assess the practical impact of the independent variable on the dependent variable, the researcher examined the f square

(f^2) effect sizes. As shown, SGMO (f^2=0.210) and TA (f^2= 0.120) had a weak to moderate effect on performance while SGMO demonstrated a moderate sized impact. Again, the results showed that TA revealed a weak to moderate impact thus suggesting that SGMO and TA form the most critical drivers of performance within the organization. However, OGMO (f^2 =0.080) showed a weak effect while SET (f^2 =0.010) and TGMO (f^2 = 0.000) revealed a negligible to no practical impact on performance. This finding when compared to the results of the moderating analysis which revealed that SET significantly moderated SGMO speaks to the fact that, not only does SGMO interact with SET, but it also is a strong driver of performance even as a stand-alone construct. By implication however, the above findings strongly suggest that, a construct can be statistically significant and yet have negligible effect size on performance. Again, the higher the effect size, the better its practical impact on performance irrespective of the P-value.

7.7 Hypothesis Assessment on GMO Dimensions Predicting OP

The section on hypothesis assessment seeks to evaluate and estimate the inner model, and the various path co-efficient by using bootstrap t-statistics based on 10,000 sub-samples, with a bias-corrected bootstrap, testing for a two-tailed significance of 95% (Sarstedt et al., 2023). The hypotheses were then estimated using a significant level of 0.05 as presented on the table below.

Table 7.17: Hypothesis Assessment on GMO Dimensions Predicting OP

	Original Sample (O)	Mean (M)	SD	T Statistics	P Values	Status
SGMO -> PERF	0.400	0.420	0.090	4.340	0.000	**Supported**
TGMO -> PERF	0.030	0.030	0.040	0.900	0.370	**Not Supported**
OGMO -> PERF	0.200	0.200	0.090	2.350	0.020	**Supported**
TA -> PERF	0.340	0.330	0.110	3.150	0.000	**Supported**
SGMO -> TA	0.630	0.630	0.070	9.370	0.000	**Supported**
OGMO -> TA	0.280	0.290	0.080	3.74	0.000	**Supported**
TGMO -> TA	0.090	0.090	0.040	2.14	0.030	**Supported**

Source: Field Research (2024)

As shown in the above Table 7.17, results of the path coefficients and the p-values showed that of the seven (7) hypothesized direct relationships tested, one out of the seven path relationships were insignificant (i.e. TGMO -> PERF). However, the remaining six were all significant i.e., SGMO->PERF (P-value 0.000), OGMO->PERF (P- value 0.020), TA->PERF (P-value 0.000), SGMO -> TA (p-value 0.000), OGMO -> TA (p-value 0.000) and TGMO -> TA (p-value 0.030) respectively.

7.8 Mediator Analysis

In this study, a mediator analysis was conducted to examine the mediating effect of technology adoption within the study organization on the relationship between green marketing orientation dimensions (GMO) and organizational performance. The essence of this mediation analysis was to determine whether or not the relationship between green marketing orientation dimensions and organizational performance is mediated by technology adoption within the organization. PLS-SEM 3.0 was used to estimate the mediation model because of its robust ability to determine mediation effects (Ringle et al., 2015).

Table 7.18: Mediation Effect of TA -> OP

Mediator Analysis

	Original Sample (O)	Sample Mean (M)	SD	T Statistics	P Values
SGMO -> TA -> PERF	0.210	0.200	0.070	3.160	0.000
TGMO -> TA -> PERF	0.030	0.030	0.010	2.020	0.040
OGMO -> TA -> PERF	0.090	0.090	0.040	2.270	0.020

Source: Field Research (2024)

From table 7.18, it can be revealed that, there is a significant mediating relationship between SGMO->TA->PERF as seen in the P-value of (0.000). Again, from the table, technology adoption (TA) mediates the relationship between Tactical green marketing orientation (TGMO) and organizational performance (OP) TGMO->TA->PERF as shown with the P-values (0.040). Furthermore, the results of the mediation analysis again revealed that TA significantly mediates Operational green marketing orientation (OGMO) and Organizational performance OGMO->TA->PERF with a P-value of 0.020. In summary, the results show that among the three dimensions, strategic and operational dimensions were partially mediated, while TGMO was fully mediated. This is because, the base line relationship between TGMO and PERF was insignificant at first but when a mediation variable TA was introduced, it became significant thus fully accounting for the relationship between green marketing orientation and organizational performance. Thus, TA serves a critical role in achieving organizational performance.

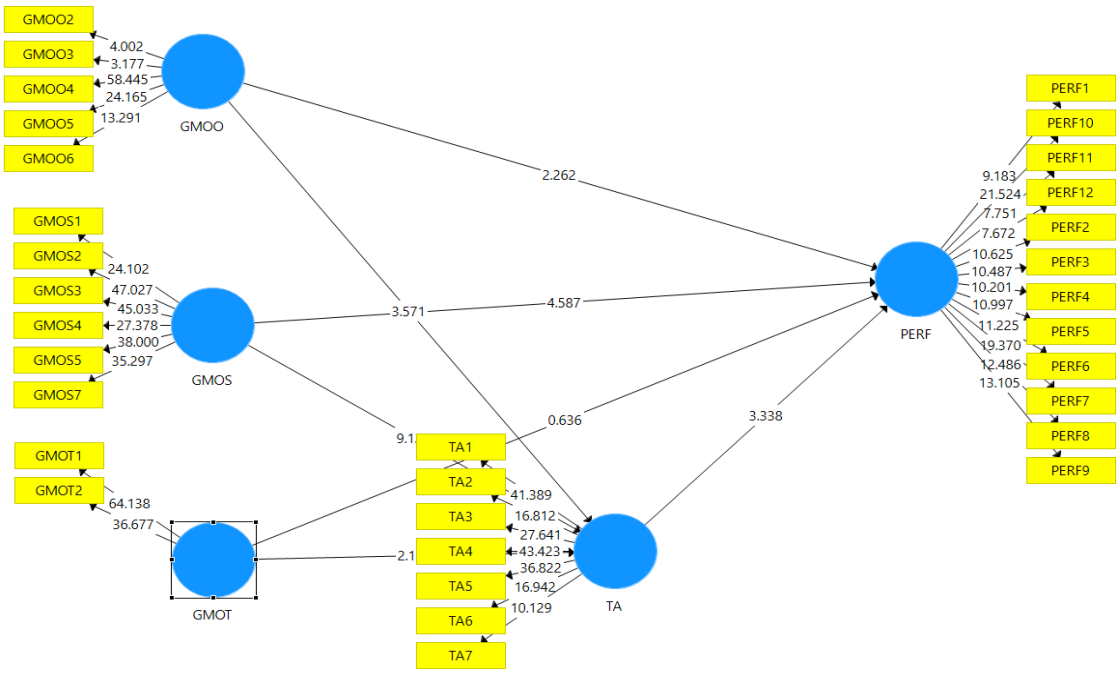

Figure 7.2: Path Model for Mediation

7.9 Moderation Analysis

Apart from the mediation analysis that was conducted to determine the intervening effect of technology adoption (TA) on the relationship between green marketing orientation dimensions (GMO) and organizational performance (PEF) a moderation analysis was equally conducted to assess the magnitude of the effect of social and ecological thought (SET) on the relationship between GMO dimensions and organizational performance connoted as (PERF). Thus, a moderation analysis was conducted to determine whether SET strengthens or weakens the relationship between green marketing orientation dimensions and organizational performance. The determination was done with the aid of PLS-SEM Software (Smart PLS 3.0) because of its robust ability to determine moderating effects (Ringle et al., 2015). To do this, TGMO was omitted from this analysis since it had an insignificant baseline relationship with performance. The remaining, OGMO and SGMO was then subjected to the moderating procedure.

Table 7.19: Moderating effect of SET on OP

Moderator Analysis

	Original Sample (O)	Sample Mean (M)	SD	T Statistics	P Values
SET*OGMO -> PERF	-0.110	-0.110	0.080	1.430	0.150
SET*SGMO -> PERF	0.190	0.190	0.090	2.180	0.030

Source: Field Data 2024

As seen in table 7.19, there was an insignificant relationship between SET*OGMO -> PERF (P-value 0.150). SET however, was identified to moderate the relationship between SET*SGMO -> PERF as seen in (P-value 0.030).

SET*OGMO->PERF

The negative moderating beta value of (o) -0.110 indicates that as social and ecological thought (SET) of an organization increases, the relationship between SET and organizational performance (PERF) becomes weak. This by implication implies that, the adherence of SET at the operational levels of management will not in any way strengthen or weaken the relationship between SET and organizational performance.

SET*SGMO->PERF

The positive beta value (o) 0.190 suggests that as the moderating variable (SET) increases, the relationship between strategic green marketing orientation (SGMO) and organizational performance becomes strong. Considering the above it is imperative to note that, SET is a significant moderator owing to the (β=0.190, p=0.030). This positive outlook indicates that, the relationship between an organization's orientation towards social and ecological issues and the achievement of its performance (reduction in carbon emissions, energy consumption and water usage) is enhanced when SET is considered at the strategic levels of the organization.

Thus, SET is a strong driver of performance when SGMO is strong. Therefore, the implication of the moderation analysis reveals that operational green marketing orientation (OGMO) with (β= -0.110, p=0.150) does not in any way play a meaningful role in strengthening or weakening the relationship between SET and Performance in the food and beverage industry of Ghana. Efforts should therefore be made at incorporating SET at the Strategic level of the organization.

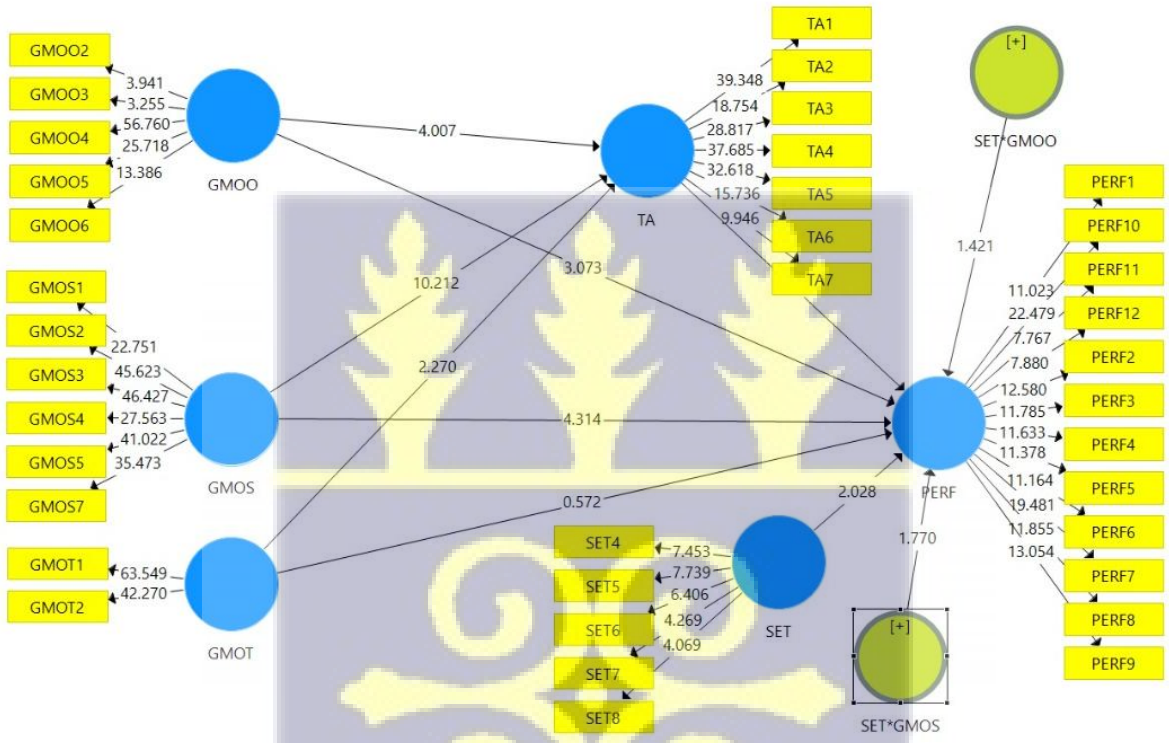

Figure 7.3: Model for Moderation

7.10 Chapter Summary

This chapter presented the findings of the study, beginning with the presentation of the demographic profiles of the various organizations. This was followed by construct descriptive analysis, descriptive of the GMO dimensions, Organizational performance (PERF), technology adoption (TA) and social and ecological thought (SET). The chapter further presented Factor loading of GMO dimensions, PERF, SET and TA. Additionally, Measurements model detailing discriminant validity test showing results of Fornell and Larcker criterion, cross loadings of the various constructs and HTMT were illustrated. Apart from the measurement model, the chapter showed results from the structural model where results of collinearity, VIF, model fit, model predictive power and relevance using R^2 and F^2 were discussed. The chapter closed by showing paths from the hypothesised relationships, followed by results from the mediation and moderation analysis.

CHAPTER EIGHT

DISCUSSION OF RESEARCH FINDINGS

8.0 Chapter Overview

Chapter seven discussed the empirical findings of the study, which were captured in the descriptive statistical analysis, exploratory factor analysis, measurement model estimation and a structural model. This chapter discusses the empirical findings resulting from the research on green marketing orientation dimensions and organizational performance and its essence relative to extant literature reviewed in the many studies. Finally, this chapter is divided into three parts; the first part provides a brief background to the study area while the second part discusses the findings of the study in relation to the research questions and hypothesis proposed at the beginning of this study followed by a summary of the chapter encapsulating the key issues in the chapter.

8.1 General discussions

The effects of manufacturing practices on the environment have gained recognition both locally and internationally (Masri & Jaaron, 2017; Masron & Subramaniam, 2019; Asif et al., 2020). These negative manufacturing practices have been exacerbated by poor manufacturing practices noticeable in many developing countries (Ferronato & Torretta, 2019; Trujillo-Gallego et al., 2020; Karuppiah et al., 2020). Some of these poor environmental practices include the disposal of used toxic substances, open dumping and burning of solid waste, uncontrolled pollutant emissions that harm the atmosphere and poor water management practices (Ramayah et al., 2013; Namagembe et al., 2019; Ferronato & Torretta, 2019). These bad manufacturing practices has occasioned the need to examine the impact of green marketing orientation dimensions, conceptualised as Strategic green marketing orientation (SGMO), Tactical green marketing orientation (TGMO), and Operational green marketing orientation

(OGMO), as conceptualized by Chamorro and Bañegil (2006), Gazquez-Abad et al. (2011), and Papadas et al. (2017) on organizational performance (PERF). The study also examined whether or not the adoption of technology and social ecological thought would help can help organizations to mitigate the effects of their manufacturing practices on the environment. The rise in the study of green marketing by scholars suggests that business now see the phenomenon as an imperative rather than a mere matter of choice (Gelderman et al., 2021) thus resulting in organizations adopting green marketing as a tool to help serve their target consumers in a way that does not harm the natural environment (Eneizan, 2020). Green marketing orientation, according to González-Benito and González-Benito (2005), is an environmental practice geared at reducing the adverse effect of a business's operations on the environment while delivering green products at the right price, place, and time to the market. In Ghana and many other developing countries, the manufacturing sector plays a central role in economic development and job creation (Tetteh et al., 2024; Twumasi et al., 2024). However, rapid industrialization has brought in its wake environmental problems like pollution, utilization of natural resources and climate alterity (Zhu et al., 2024; Salim et al., 2024; Ahakwa et al., 2023) which have largely been attributed to poor manufacturing practices. This realisation among manufacturing firms in Ghana has resulted in organizations incorporating dimensions of green marketing orientation at various levels of their organizations to ensure environmental sustainability (Afum et al., 2023; Reddy et al., 2023). The implementation of green marketing orientation dimensions with organizations ensures environmental conservation while at the same time ensuring organizational performance (Vilkaite-Vaitone & Skackauskiene, 2019; Kao & Du, 2020; Ismail et al., 2023). Performance in literature is regarded as the achievement of financial and non-financial goals. Where financial performance includes market share, return on investments etc. But for the purposes of this study, organizational performance has been operationalized to include an organization's ability to reduce its carbon emissions in their

manufacturing processes, reduction in energy consumption, and water management (Chamorro & Bañegil, 2006) which are more environmental in nature.

Additionally, this study examined the moderating role of social and ecological thought (SET) marketing on the implementation of green marketing orientation dimensions within the study organizations. SET marketing places emphasis on companies that implement green policies geared towards social and ecological good rather than a means of making a profit (Jahel et al., 2023; Yarimoglu & Binboga, 2019). By adopting social and ecological thought marketing, manufacturing companies can benefit through developing a healthier organizational image, attract environmentally conscious customers and, thereby, increasing their competitive advantage (Boateng & Agyei-Sasu, 2021; Wirdiyanti, 2022). The study further examined the mediating role of technology adoption in the relationship between green marketing orientation dimensions and organizational performance. Scholars have suggested that the development and implementation of the most appropriate green technology, as well as the development of creative applications in the production of products based on that technology, are the cornerstones of an effective green marketing orientation strategy (Cirera et al., 2021; Yusoff et al., 2022). Therefore, by conducting a mediation analysis to examine the role of technology adoption and a moderation analysis to evaluate the impact of social and ecological thought on organizational performance, this study aims to provide insights into the relationship between green marketing orientation dimensions and organizational performance in manufacturing companies in Ghana specifically in the food and beverage industry. To bring focus to the study, seven direct hypotheses were stated and analysed based on the research objective.

H1: Strategic green marketing orientation significantly influences organizational performance

H2: Operational green marketing orientation significantly influences organizational performance

H3: Tactical green marketing orientation significantly influences organizational performance

H4: Strategic green marketing orientation has a significant effect on technology adoption.

H5: Operational green marketing orientation has a significant effect on technology adoption

H6: Tactical green marketing orientation has a significant effect on technology adoption.

H7: Technology adoption has a significant effect on organizational performance

8.2 The Impact of Green Marketing Orientation (GMO) Dimensions on Organizational Performance (OP)

The measurement and structural model's assessment using PLS-SEM helped to test the hypothesis between GMO dimensions and Organizational performance (OP). Of the eight (8) hypotheses used in testing the various relationship, two (2) out of eight were not supported while the remaining six (6) were supported. The sections that follow discuss the various direct relationships between green marketing orientation dimensions (GMO) and Organizational performance (PERF) as well as the mediation and moderation relationships.

8.2.1 Strategic Green Marketing Orientation and Performance (SGMO-> PERF)

The study empirically examined the hypothesis that, H_1 SGMO significantly influence performance (PERF) of organization as integrated (water management, carbon emissions, and energy consumption). Based on the test results, it was revealed that, there was a significant relationship between SGMO->PERF at (P-value 0.000) thus supporting hypothesis H_1. This

result indicates that, for organizations to achieve performance, green marketing orientation must be prioritised at the top levels of management where strategic decisions which form part of overall corporate strategy are made. Thus, Food and beverage organizations that integrate SGMO into their mission statement are more likely to achieve organizational performance operationalized as (water management, carbon emission reduction and reduced energy consumption) because at the strategic level, issues of environmental management and sustainability are imbedded as part of the overall corporate culture. Again, regulatory issues that could potentially impact the organization are agreed with and mitigated at the strategic levels of management. This finding is thus consistent with Sharma et al. (2020) who explained green strategies and outcomes in firms in India. Their results found that green product strategies positively impacted financial performance indicators like sales and profit, while non-financial metrics like customer relationship quality was impacted by green marketing strategy. This therefore suggests that the implementation of green marketing orientation at the strategic level allows for focus regarding issues of the environments as these issues are prioritised at the highest level of management and incorporated as part of a long-term organizational policy involving every facet of the organization. Further supporting this relationship, Miles and Colvin (2000) found that environmental marketing contributes to reputational advantage, which in turn enhances both marketing and financial performance. Their research underscores the importance of environmental marketing as a strategic tool for organizations aiming to improve their overall performance. Additionally, Danso et al. (2019) established that Entrepreneurial Sustainability Orientation (ESO), a leg of strategic orientation positively influences performance. This finding thus suggests that organizations with a strong commitment to entrepreneurial sustainability are better positioned to achieve set performance goals. Then again, Mukonza and Swarts (2020) conducted a case study on South Africa's retail giants, Woolworths and Pick n Pay, and found that strategic green marketing orientation

positively affects corporate image and business performance. This research reinforces the notion that effective green marketing can lead to improved organizational outcomes when incorporated as part of a broader organizational plan. This is evident in recent studies that have consistently shown that the dimensions of Green Marketing Orientation (GMO), including Operational Green Marketing Orientation (OGMO), Strategic Green Marketing Orientation (SGMO), and Tactical Green Marketing Orientation (TGMO) positively impact an organization's financial performance when integrated. This is collaborated by Han et al. (2019), Tian et al. (2022), and Borah et al. (2023) indicating that organizations that adopt a comprehensive approach to green marketing are more likely to experience enhanced performance.

The relationship between Strategic Green Marketing Orientation (SGMO) dimensions and organizational performance (PERF) can be understood through the Natural Resource-Based View (NRBV) and Dynamic Capabilities Theory as used in this study. The NRBV suggests that firms achieve their performance indicators out of the allocation of resources and capabilities that are rare and valuable. From this perspective, sustainable activities and green marketing orientation dimensions are viewed as strategic capabilities that help organizations to improve their performance results. Organizations are thus encouraged to embrace SGMO in order to ensure that they take advantage of these resources in a bid to develop distinctive competencies and compare well in the marketplace. For example, Sharma et al. (2020) posits that firms implementing green marketing orientation dimensions can develop a sustainable competitive advantage that leads to better satisfaction of consumer's environmental demands like sustainable products, thereby improving the firms' profitability. Studies have also revealed that firms that have adopted green marketing orientation dimensions are likely to record excellent performance (Shu et al., 2016) owing to the organization wide consciousness about the positive benefits of adopting and implementing green initiatives. The research further

shows that firms that incorporate green marketing orientation into their corporate strategy are in a better position to manage resources, minimize wastage and increase firm sustainability thus enhancing their financial performance (Sharma et al., 2020). This aligns with the NRBV, as these firms leverage their unique capabilities to gain a competitive edge.

8.2.2 Tactical Green Marketing Orientation (TGMO) and Organizational Performance (OP)

Again, the study empirically examined the hypothesis that, H_2 TGMO significantly influences performance (PERF) of Organization as integrated (water management, reduction in carbon emissions, and energy consumption). Based on the test result, it was revealed that, there was an insignificant relationship between TGMO->PERF as shown in (P-value 0.370), thus failing to support hypothesis H_2. This result suggests that organizations can achieve their objective of water management, carbon reduction and energy consumption efficiency without necessarily integrating green marketing in the implementation of their overall marketing mix, which defines the overall marketing strategy of any organization. Thus, food and beverage organizations in their quest to achieve organizational performance are not required to implement green marketing orientation at the tactical level as a prerequisite for performance especially in their marketing mix. This finding is inconsistent with many scholarly works on TGMO. For instance, a study by Van Eenennaam and Werth (2021) examined the challenges and communication strategies within the alternative meat industry, highlighting the critical role of effective science communication in promoting sustainable products. The study found that, a well-orchestrated tactical green marketing strategy can mitigate misinformation and enhance consumer acceptance, thereby potentially improving organizational performance through increased market share and brand loyalty. Again, Li et al. (2022) explored the influence of governmental relationships in fostering green production in demonstration households in China

and found that there is a positive effect of embedded governmental relationships on green production adoption thus suggesting that organizations employing tactical green marketing can benefit from enhanced operational efficiencies and improved reputation, which are critical components of overall performance metrics. In summary, both studies highlighted the broader implications of integrating sustainability into organizational strategies. Van Eenennaam and Werth (2021) point out that effective marketing of alternative meats not only addresses environmental concerns but also positions organizations as leaders in innovation and corporate responsibility. This dual advantage can lead to enhanced competitive advantage and financial performance. Li et al. (2022) further reinforced this assertion by demonstrating that strategic governmental relationships can facilitate the adoption of green practices, thereby driving organizational performance through improved sustainability outcomes and consumer trust. Similarly, a study by Jain and Singh (2024) investigated Green brand identity and B2B channel partners in India among other companies engaged in the sales of global lifestyle brands and found that, a moderate positive relationship is observed between Commitment and Tactical GMO and between Brand Governance and Attitude. The integration of TGMO into the overall business strategy is thus essential for realizing its potential benefits. Nidumolu et al. (2009) stated, that firms that adopt Tactical Green Marketing orientation to their existing and emerging strategies over time or incrementally are likely to be more effective in achieving green Marketing performance. This flexibility is particularly appropriate in a dynamic business scenario where customers' attitudes and polices are ever shifting.

Again, according to Mourad and Ahmed (2019), the ability to influence consumers to pay for green products is also influenced by the effectiveness of TGMO programs within the organization. In summary, the relationship between tactical green marketing orientation and organizational performance is intricately linked through the adoption of sustainable practices and effective communication strategies that resonate with environmentally conscious

consumers. Again Borah et al. (2023) in their study on the role of Green marketing orientation, green innovation capability, green knowledge and green brand positioning in determining the success of a new product, found that, the implementation of green marketing orientation within the short-term strategic plans of an organization leads to performance as the organization is able to change its traditional marketing mix to reflect green marketing principles, thus attracting green conscious customers. In a similar fashion, Mukonza et al. (2021) also posit that, an integrated green marketing orientation dimension including tactical green marketing is critical for organizational performance. In their study of green marketing in emerging markets they make a strong case for the role GMO dimensions play in the success of many organizations in emerging markets thus stressing the importance of incorporating green marketing initiatives and making the same part of the new green marketing mix. Thus, organizations in the food and beverage sector in the quest to reduce their carbon footprints, energy consumption and water usage in their manufacturing process should consider adding green marketing into their short-term strategic plans as it creates the desired awareness within the organization about the adverse effects of their manufacturing practises on the natural environment.

Furthermore (Negi et al., 2023) in their study of the effects of GMO dimensions on innovation and organizational performance, found that of the three variables of GMO dimensions, only tactical green marketing orientation showed a direct effect on organizational performance while the rest showed an indirect effect. This finding shows the critical role tactical orientation plays in the performance of many organizations. Therefore, it is imperative that, green marketing be introduced as part of the new marketing mix of organizations and included in the marketing plan. This way, the negative effects of manufacturing practice will be disclosed within the organization thus acting as a caution against its continued practice, which in the short term will influence the way energy is consumed within the organization, how water is managed and lastly how carbon emissions are managed, by the organization. Though the findings are at variance

with literature on TGMO, in the specific case of the food and beverage industry in Ghana, it is imperative to note that TGMO does not result in Performance and therefore investment in green marketing must be made at both the strategic and operational levels of management.

8.2.3 Operational Green Marketing Orientation (OGMO) and Organizational Performance (OP)

In this study the researcher sought to test H_3 which states that, there is a significant relationship between operational green marketing orientation and performance thus OGMO->PERF. The results from the study supported the hypothesis since the findings revealed a significantly positive relationship between operational green marketing orientation and organizational performance thus supporting H_3 (P-value 0.020). The result is indicative of the fact that, organizations that adopt green marketing into their day-to-day operations are most likely to fulfil set performance targets. For the food and beverage industry to be able to achieve performance (water management, reduction in carbon emissions, and reduced energy consumption), it is imperative green marketing is integrated into the daily routine of the organization such that all employees especially those who interface with the consuming public are educated about the importance of the effects of their operational activities on the environment. This assertion is in line with earlier research and knowledge on how green marketing campaigns can enhance resource use leading to organizational performance (Papadas et al., 2017; Leonidou et al., 2013). Vilkaite-Vaitone and Skackauskiene, (2019) in supporting this hypothesis contends that, the implementation of strategic, tactical and operational green marketing orientation within an organization will assure benefits for different stakeholders. The study further recommends the importance of extending environmental awareness among employees as they continue to implement their functional activities. Again the findings of the study has been buttressed by Elshaer et al. (2024) who posit that, there is a

significant positive relationship between internal green marketing orientation (operational marketing orientation) and business performance, suggesting that, organizational performance is achieved when green marketing orientation is integrated into the day to day strategy of an organization. Green marketing is therefore vital in the daily running of the food and beverage industry. Various research has also indicated that companies that have integrated sustainability into their competitive and organizational strategies usually perform better than their counterparts (Dangelico & Vocalelli, 2017). Such integration enables the creation of sustainable organizational culture that aligns organizational practices with consumers' perceptions of their responsibility towards the environment (Chamorro et al., 2009).

In summary, there is an overwhelming support for H_3 in extant literature, which suggests a significant relationship between OGMO->PERF. However, there is contrary evidence by Afum et al. (2020) revealing that operational competitiveness, firm reputation and environmental performance play no mediation role between green manufacturing and economic performance. Thus, suggesting that, OGMO once implemented within the organization will not impact performance and so managers in the food and beverage industry should not rely on implementing green marketing orientation at the operational level alone.

8.2.4 Strategic green orientation (SGMO) and Technology adoption (TA)

A statistically significant positive relationship was found between SGMO and TA ($\beta = 0.630$, $p = 0.000$), emphasizing that long-term sustainability-driven strategic postures are quintessential for technological innovation on the part of firms. The magnitude of the beta coefficient and the almost negligible p-value give credence to the idea that SGMO is at the forefront of deciding on the adoption of advanced green technologies. The very high t-statistic of 9.37 lends additional credence to this finding.

This result confirms and extends the theoretical underpinnings laid by Zhang et al. (2023), who contend that firms with a strong sustainability orientation are more inclined to engage in technological advancement as a means to execute their long-term environmental and strategic goals. This assertion aligns with previous research which lends validity to the argument that SGMO spurs technological innovation. Judging from the magnitude of the beta coefficient, firms that prioritize sustainability in their marketing strategies will integrate green technologies into their operational and product development phases to a higher extent than other firms. From a theoretical standpoint, the finding supports the Natural resource-based view (NRBV) suggesting that strategic green marketing orientations (SGMO) is a resource that is valuable, rare, and difficult to imitate by competitors thus useable as competitive advantage. The very strong relationship between SGMO and TA bolsters dynamic capability theory whereby technological development exploits strategic foresight and adaptability. Thus, companies that largely incorporate sustainability into their green marketing orientation are likely to establish organizational routines and capabilities for the identification, assimilation, and deployment of green technologies.

8.2.5 Operational green marketing orientation (OGMO) and Technology adoption (TA)

The relationship between Technology Adoption (TA) and Operational Green Marketing Orientation (OGMO) ($\beta = 0.280$, p-value = 0.000) is statistically significant. This finding implies that the adoption of technology at the operational-level of the organization ensures efficiency in the implementation of green initiatives within the organization. The moderate beta coefficient suggests that OGMO primarily drives efficiency-oriented technological upgrades rather than systemic, transformative changes, even though it is substantively meaningful.

This finding supports the theoretical distinction made by Lee and Kim (2022) between operational and strategic sustainability orientations, contending that the former is more likely

to produce small-scale advancements, like waste management automation or energy-efficient process optimizations. According to Kamble et al. (2023), the statistical significance of the relationship (shown by the p-value = 0.000 threshold and a t-statistic of 3.74) suggests that OGMO is a significant antecedent of TA, especially in industries like manufacturing and logistics where process-level efficiencies are crucial. The comparatively low beta value, however, emphasizes the idea that operational green practices do not produce as much innovation as strategic, long-term sustainability commitments, even though they are successful in promoting the adoption of new technologies. The fundamental goals of OGMO versus SGMO provide a tenable theoretical explanation for this disparate impact. Cost-cutting and compliance-driven requirements are frequently the foundation of operational green initiatives (Chen et al., 2024), which bias businesses toward technologies that provide instant efficiency gains, like lean manufacturing automation, smart metering systems, and predictive maintenance tools.

8.2.6 Tactical green marketing orientation (TGMO) and Technology adoption (TA)

The weakest relationship among the three green marketing orientations construct analysed is found in TGMO->TA link ($\beta = 0.090$ and p-value = 0.030), thereby establishing that short term green marketing initiatives, such as eco-packaging, green labelling, or promotional campaigns of sustainability, do contribute to technological adoption, only that their contribution is scant compared to a strategic or operational-side commitment to sustainability. Its small beta value, along with a t-value of 2.14, suggests that not only is TGMO limited in its magnitude as a predictor of TA, but such effects are also much less robust. This further reinforces the idea that superficial or compliance-based green marketing measures do not significantly force technological changes. This finding corresponds well with Zhang and Zhu (2023), who maintain that companies with TGMO orientation mainly utilize digital tools, like QR codes for

product traceability or blockchain to verify sustainability claims, to polish marketing legitimacy instead of engaging in genuine technological innovation. This is the traditional techno-commercial atomization of sustainability strategy, where the technologies are adopted mainly when emerging regulations are faced or to capture entering consumer demand for sustainability (Walker & Wan, 2012). Since TGMO is oriented toward immediate consumer perception and competitive differentiation (Leonidou et al., 2013), the TGMO effect on TA is probably limited to those technologies that support these short-term objectives, rather than technologies that support long-term environmental performance. This fits in with the observation of Testa et al. (2018), who found that marketing-led green initiatives tend to associate more frequently with "light green" technologies, which require minimal organizational restructuring, than with "deep green" innovations that require systemic overhauls.

8.3 Discussion of Moderation Analysis

In order to test the strength of the relationship between green marketing orientation dimensions on organizational performance, a moderating variable social and ecological thought (SET) was introduced using PLS SEM to test the hypothesis that, H_{4a-c}: Social Ecological Thought (SET) significantly moderates the relationship between green marketing orientation dimensions and organizational performance. The framework incorporates Social and Ecological Thought (SET) as a moderator. SET as used in the study represents social and ecological values, beliefs, and norms that influence organizational behaviour and practices especially in the way the organization approaches issues of the environment. It is therefore believed that once the organization's values align with its sustainability principles, the impact of green marketing orientation on its performance become evident and vice-visa. Hypothesis H_{4a-c} states that, social and ecological thought (SET) significantly moderates the relationship between green marketing

orientation dimensions and organizational performance. It measured three moderating relationships of SET*SGMO->PER, SET*TGMO->PERF and SET*OGMO->PERF.

Of the three moderating relationships, SET*TGMO->PER was deleted because it had no baseline relationship with Performance. Thus, according to (Hair et al., 2014) such relationships must be deleted. Therefore, from the results of the moderation analysis, an enhanced SET creates awareness at the strategic level thus increasing the chances of organizations in the food and beverage industry implementing green marketing practices within the organization. Thus, organizations oriented towards issues of social and ecological thought are more likely to consider social and ecological concerns in their manufacturing practices.

Again, the findings from the study suggest that, SET*OGMO->PERF had an insignificant moderating relationship. This by implication means that, the implementation of SET within the day to today operations of the organization would not in any way result in the desired consciousness that will lead to a consideration of social and ecological concerns in their manufacturing practices. Based on these results, SET*OGMO-> PERF does not in any way strengthen or weaken the relationship between OGMO and PERF. This thus raises vital questions regarding the moderating effect of SET*OGMO->PERF. While organizations may articulate a commitment to social and ecological concerns, it does not always translate into effective operational changes or enhanced performance. This aligns with findings from previous research that suggest a gap often exists between sustainability rhetoric and practice (Caiado et al., 2019). However, there are contrary Findings of the insignificant moderating results of SET*OGMO->PERF which indicate that, firms with higher environmental ethics are more likely to ensure green marketing programs, like green production, pricing, distribution, and promotion that leads to improved firm performance (Han et al., 2019; Gilal et al., 2019). These contrary finding which are at variance with the insignificant relationship between SET*OGMO->PERF thus suggest that organization's that embed issues of the environment

into their operations are more likely to enhance their performance. The results further suggest that the notion of sustainability may require further expansion to ensure that organizations can integrate sustainability into their processes more effectively. Studies have further shown that, while adopting green marketing orientation, there might be the need for a massive organizational change across different levels of the organization (Dangelico & Vocalelli, 2017).

The Stakeholder Theory was used in the study to further understand the moderating effect of SET on organizational performance. The theory asserts that the needs of customers, employees, suppliers, and the community must at all times be met in line with their expectations and that companies that implement SET are in a better place to address these expectations leading to improved reputation and performance. Therefore, enhanced organizational sustainability practices can enhance organizational performance through satisfaction of stakeholder expectations. Furthermore, SET can enhance stakeholder relations since firms that report on their sustainability performance can gain and sustain clientele whose purchasing power is anchored on sustainable business practices. Such involvement has the positive impact on long-term financial returns. For instance, Miles and Colvin (2000) found that firms aligning their green marketing orientation practices with stakeholder interests often experience enhanced brand loyalty and market share owing to the increasing consumer preference for green products.

8.4 Mediation Analysis

In order to determine the intervening effect of technology adoption on the relationship between green marketing orientation dimensions and organizational performance, the study conducted a mediation analysis using PLS- SEM to test the hypothesis. The concept of green marketing orientation deals with the promotion of environmentally friendly business practices and

products that meet the requirements of ecologically conscious consumers (Peattie, 1995; Polonsky, 2011). However, for organizations to achieve consciousness as far as green marketing is concerned, scholars posit that, organizations will have to consider several other factors (Baker & Sinkula, 2005; Chen et al., 2015).

One such factor is technology adoption which has been used in this study as an intervening variable. The researcher's framework proposes that technology adoption acts as a mediator in the relationship between green marketing orientation dimensions and organizational performance. Technology adoption, in the context of this study refers to the implementation of scientific knowledge, tools, and innovations within the organization to enhance the implementation and effectiveness of green marketing initiatives leading to overall performance. According to Chen et al., (2006) and Chen (2008), green technology deals with eco-friendly innovations and systems that minimize environmental impact. Furthermore, Green technology refers to utilizing eco-friendly practices and innovative solutions to develop sustainable offerings (Zhu et al., 2023). However, in relation to this current study many empirical studies tend to support the findings of the study including a study by Chen et al. (2022) who revealed that green innovation positively impacted on eco-efficiency gains as well as operational and financial performance metrics. Again, a study by Yang & Wang (2020) supported the hypothesis. In that study, Results of the SEM analysis revealed that green distribution strategies utilizing E-commerce platforms strengthened environmental competencies and further posit that digital channels enhance remote shopping sustainability by reducing transport emissions. To further support the hypothesis, Pomffyová and Píchalová (2021) using a multiple regression analysis showed that investments in eco-efficiency programs spurred technological innovations such as eco-friendly machinery adoption. In summary, many scholarly works in the area of green marketing orientation have highlighted

the importance of technology in the performance of organizations as seen in the many empirical works thus supporting hypothesis $H_{5, 6, 7}$.

8.4.1 Strategic Green Marketing Orientation (SGMO), Technology Adoption (TA) and Performance (PERF)

H_5 sought to test the hypothesis that, there is a significant mediating relationship between Strategic green marketing orientation (SGMO), Technology adoption (TA) and Performance. This position was supported in the current study as evident in the (P-value 0.000) which is indicative of a positive mediating relationship between strategic green marketing orientation, Technology adoption and organizational performance. The findings thus suggest that the implementation of technological knowledge, innovations and tools within the organization would ensure that their production processes relating to water usage, high energy consumption and the rate at which they emit carbons is minimised through their manufacturing practices. Thus, the relationship between SGMO and performance within organizations is significantly influenced by the level of technology adoption which creates an environment that promotes sustainable innovation and the application of scientific knowledge in their production processes. According to extant literature, companies that strongly emphasize strategic green marketing orientation are more inclined to implement advanced eco-friendly technologies, driven by regulatory requirements, available resources, and a dedication to environmental sustainability (Papadas et al., 2019; Borah et al., 2023). This alignment not only improves business performance but also helps establish sustainable competitive edge. Furthermore, the findings of the study are consistent with research by Li and Gao (2022) who posit that companies with a strong green focus are more likely to embrace innovative technologies, particularly when the incentives outweigh the penalties. This research highlights the crucial

influence of strategic green orientation in shaping decisions about technology adoption, especially within regulated industries. In a related study Sadeq et al. (2024) offers a comprehensive review of hydrogen energy systems, highlighting the technological advancements and trends that shape the adoption landscape. The study emphasized the strategic imperatives necessary for the widespread adoption of hydrogen technologies.

This analysis complements the understanding of how strategic orientations can influence the adoption of specific green technologies by addressing the broader technological and economic contexts. Furthermore, Wang et al. (2021) in their study concluded that companies that adopt green technologies, such as renewable energy sources and eco-design tools, can create products that meet sustainable standards and further posit that such innovations reduce the environmental footprint and resonate with eco-conscious consumers. Again Zhou et al. (2022) opined that technology allows businesses to analyse market trends and consumer behaviour effectively. By utilizing data analytics, organizations are in better position to tailor their green marketing orientation initiatives to meet organizational objectives. Digital platforms, particularly social media, provide companies with channels to promote their sustainability efforts. Gonzalez et al. (2024) posit that, by engaging digital platforms, organizations can gain an enhanced credibility and foster a community of environmentally conscious consumers who would have a high preference for the organization's product, resulting in organizational performance.

8.4.2 Operational Green Marketing Orientation (OGMO), Technology Adoption (TA) and Performance (PERF)

Technology adoption significantly mediates the relationship between Operational green marketing orientation and organizational performance by enhancing consumer awareness,

shaping favourable regulatory environments, and fostering innovation. The integration of green marketing orientation with supportive policies and external support mechanisms facilitates the successful adoption of sustainable technologies, thereby advancing both organizational and environmental objectives. H_6 tested the hypothesis that, there is a significant positive mediating relationship between operational green marketing orientation (OGMO), Technology adoption and performance. Based on results from the study, H_6 was supported at (P-Value 0.000) which suggests that there exists a significant positive mediating relationship between OGMO->TA->PEEF suggesting that organizations that implement technology at the operational level within the food and beverage industry improve performance. By implication, the implementation of technological practices by way of introduction of scientific knowledge, innovation and practices in the day-to-day operations could lead to organizations in the food and beverage sector becoming conscious of the implication of their manufacturing practice that may have an adverse effect on the environment.

This is so because, organizations implementing GMO are able to infuse the orientation in their day-to-day activities thereby creating the desired consciousness of green initiatives within the organization. According to Pujari (2006), firms implementing green marketing orientation are in a better position to adopt sustainable technologies apart from advancing environmental goals. Existing literature shows that firms adopting green marketing orientations tend to improve their technology innovation performance. For instance, Chen et al. (2015) revealed that those organizations that incorporate green marketing orientation as a strategic activity across their business are more likely to undertake green technology innovations. This is in line with the current study that affirms H6: OGMO->TA->PERF with (P-value 0.000) which shows a strong positive relation. In support of H_6 Miller et al. (2024) found that, a comprehensive support framework, including stakeholder collaboration and policy alignment, are critical for facilitating technology adoption. Furthermore, Antukh et al. (2022) revealed that, the

implementation of operational green marketing orientation within an organization engenders public acceptance and facilitates the integration of biogas technologies within existing energy infrastructures. The study points out that the successful adoption of operational green marketing orientation within an organization requires targeted marketing strategies that communicate the environmental and economic advantages of biogas systems to both stakeholders and the community at large. Thus, one of the vital ways through which OGMO helps in technology adoption is by raising the awareness of staff and management.

Peattie and crane (2005) further hold that consumers who expect organizations to produce sustainable products would push organizations into the usage of green technologies. This consumer pressure not only increases the attractiveness of green products but also strengthens the business case for developing sustainable technologies. In addition, availability of conducive and or favourable regulations are considered key in influencing access to as well as deployment of technology. According to Dangelico and Pontrandolfo (2015), a favourable policy environment which supports sustainability results in a favourable environment for firms to adopt green technologies. Thus, companies that integrate their green practices through operational marketing end up receiving incentives from regulatory bodies due to their sustainability commitments. Also, Meramo et la. (2022) posit that, operational green marketing plays a critical role in aligning economic incentives with environmental objectives, thereby driving the adoption of bio-based technologies. In summary, the various studies on operational green marketing orientation suggest that the construct is fundamental in navigating the complex landscape of technology adoption within organizations. The advancement of green marketing together with supportive policies also creates innovation. Raut et al. (2020) posits that firms engaging in green marketing orientation satisfy legal requirements but also use sustainability as a marketing tool. Such strategic integration allows organizations to innovate consistently through the creation of new products and processes that are compliant with environmentally

sustainable standards. The results of the current research support this notion, indicating that it is possible for firms in the Food and Beverage industry to improve their organizational performance by embracing sustainable technologies. Therefore, by enhancing consumer awareness, aligning with regulatory frameworks, and fostering innovation, green marketing orientation creates a conducive environment for the development of sustainable technologies within the organization.

8.4.3 Tactical Green Marketing Orientation (TGMO), Technology Adoption (TA) and Performance (PERF)

Furthermore, the study empirically investigated hypothesis H_7 which suggest that there is a significant mediating relationship between Tactical green marketing orientation (TGMO), Technology adoption (TA) and Performance (PERF). Based on the results, the Study revealed a positive significant mediating relationship between TGMO ->TA->PERF (P-value 0.020) suggesting that H_7 is supported. This result thus confirms that, for an organization to efficiently meet its performance objective, scientific knowledge, innovation and tools must be incorporated into the organizational culture to ensure the all elements of the marketing mix of the organizations have green marketing orientation lenses. Thus, the implementation of technology adoption within the short-term strategy of the food and beverage organization leads to performance. Technology adoption thus significantly mediates the implementation of tactical green marketing within the food and beverage industry in Ghana resulting in performance which has been operationalised as an organization's ability to reduce its carbon emission, reduce energy and water consumption. Technology adoption is thus integral to the achievement of organizations' performance at the tactical level of organizations' operations. Thus, the adoption of technology by food and beverage organizations allows them to introduce innovations and scientific knowledge, which enables them, effectively incorporate green

initiative in the culture of the organization thus allowing them to become efficient in their service delivery as far as green marketing is concerned.

8.5 Chapter Summary

In summary the results from the empirical study found that, of the eight (7) hypothesised direct relationships, Tactical green marketing orientation (TGMO) and Organizational performance (TGMO->PERF.) was not supported. Again, of the two moderating relationships tested, SET*OGMO->PER was not supported while SET*SGMO->PERF was supported. On mediation, all the three mediating relationships tested were supported with SGMO->TA-> PERF and OGMO->TA->PERF partially mediating the relationship between GMO-> PERF while TGMO->TA->PERF was fully mediated.

CHAPTER NINE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

9.0 Chapter Overview

The previous chapter discussed the research findings related to the hypothesized relationships as found in extant literature. This chapter provides a summary of the key findings of the study, its resultant reflections, the research's contributions to managerial practice and academia and its eventual implication for future research. To bring the key areas of this research into focus, this chapter is further broken into four thematic areas. The first part summarizes the research problem and the objectives, including the key findings resulting from each objective as set including reflections. The second part of this concluding chapter highlights the potential implication for research. The third part considers the Beneficiaries and Application of findings with the fourth dealing with implication for future research in the area of green marketing orientation (GMO) dimensions and its impact on organizational performance (OP) and finally the limitation of the study.

9.1 Summary of the Research and Major Findings

The aim of this research was to examine the impact of green marketing orientation dimensions as implemented by organizations and how their implementation affects organizational performance. The research further sought to investigate the mediating effect of technology adoption on the relationship between green marketing orientation dimensions and organizational performance. Also, the study examined the moderating role of social and ecological thought (SET) on the relationships between green marketing orientation dimensions and organizational performance.

To achieve the above, three main objectives were set to help investigate relationships. The first objective was to examine the impact of green marketing orientation dimensions conceptualized as Strategic green marketing orientation (SGMO), Tactical green marketing orientation (TGMO) and Operational green marketing orientation (OGMO) on organizational performance (OP).

1. To achieve the set objective, a synthesis of the literature around green marketing, sustainability marketing, environmental marketing and sustainable marketing orientations was done. The results of the synthesis of the literature helped to bring into context the role of green marketing orientation in achieving organizational performance. Using the Dynamic Capability Theory, which assumes that an organization ability to sense, seize and transform both its internal and external capabilities to the advantage of the organization results in competitive advantage was used as a complementary theory to help explain the relationship between GMO dimensions and organizational performance.
2. The second objective was to test the mediating role of technology adoption on the relationship between green marketing orientation dimensions and organizational performance. Technology adoption was operationalized to mean an organization's use of scientific knowledge, tools, and innovations to enhance the implementation and effectiveness of green marketing initiatives within an organization in a way that impacts on overall performance. Technology adoption was used in the analysis as a composite construct. Using dynamic capability theory, the research was able to explain how technology is able to transform the general operations of an organization such that, the negative effect of their operation on the environment is mitigated through the use of innovation, scientific knowledge and tools thus allowing the organization to sense, seize

and retransform their internal and external capabilities to ensure the achievement of the organization's performance. The operationalization of technology adoption was realized from the review of extant literature around green marketing orientation and technology adoption.

3. The third objective was to investigate how an organization's views on Social and Ecological considerations moderates the relationship between green marketing orientation dimensions and organizational performance. To achieve this objective, a comprehensive review of extant literature was done to better understand the moderating relationship. Using the stakeholder theory, the researcher sought to explain the importance of both internal and external stakeholders in the achievement of green marketing initiatives as the satisfaction of the various stakeholders as far as green marketing initiative is concerned could negatively or positively impact performance. This theory allows organizations to gather, disseminate and respond to information used to provide offerings to consumers that are far and above that given by competition. The theory again posits that, organizations have numerous stakeholders with different needs that must be satisfied. Hence, a failure by an organization to meet the green needs of stakeholders who are environmentally conscious will lead to push backs that may affect their competitive advantage. Thus, the theory affirms that, organizations that are oriented towards social responsibility and ecological sustainability are likely to incorporate green marketing orientation within their organizational culture.

Lastly, all the constructs of green marketing orientation dimensions acting as independent variables, technology adoption as a mediating variable and social and ecological thought as moderating variable were all measured against performance, which is operationalized in the research as an organization's ability to reduce its carbon footprints, water management and

energy consumption. Again, these measures were realized from an extensive review of literature and measured as a composite construct in the study. To better appreciate organizational performance, the natural resource based theory was used to complement the analysis.

To further narrow the review to the specific area of the study, further review was done around the green marketing orientation and its evolution, green marketing orientation dimensions and how it affects performance. Again, a review of literature on technology adoption was conducted to determine scholarly positions on the mediating role of technology adoption on performance. Further literature review was conducted again on the moderating role of social and ecological thought on the relationship between green marketing orientation dimensions and organizational performance. Reviews on the three theories guiding this research was also done to determine how the theories were used in similar studies. To ensure the literature on the study area is not outdated, the research limited the search to five years thus from 2019 to 2024. This resulted in the identification of research gaps in theory, issue, and context. These gaps were articulated in chapter three of this research. During the literature review, it was evident that there were several conceptualizations of green marketing orientation dimension variables and definitions depending on the discipline conducting the research. These lack of common grounds on the conceptualization of green marketing orientation dimensions called for further studies into the area (Golob et al., 2023). Though there are studies in extant literature in the area of green marketing orientation dimensions and its effects on organizational performance, there was equally a paucity of studies especially on the link between the multiconstruct impact of green marketing orientation dimensions on the performance of organization together in a single study (Ghaffar et al., 2023; Heliyon et al., 2023; Shehawy et al., 2024; Vecchio et al., 2023). Reviewed literature around the subject area further revealed that, methodologically, there was a paucity of studies in the area using qualitative method and mixed methods. Most studies

investigating the impact of green marketing orientation dimensions on organizational performance used Quantitative methods with Smart PLS as an analytical tool.

Again, there was a paucity of research work using social and ecological thought (SET) marketing principles as a moderator in the relationship between green marketing orientation dimensions and organizational performance. However, most studies in the subject areas were found to have used Technology adoption as a mediating variable in the relationship. Whereas this research is guided by three theories i.e. Natural resource-based view (NRBV), Dynamic capability (DC) and Stakeholder theories, extant literature revealed the use of the above theories in an individual fashion with paucity of research in the study areas using them all together to understand the relationship between green marketing orientation dimensions and organizational performance especially in the food and beverage industry and in an emerging country setting. These theories used in the research helped to put the objectives of the research into perspective. The NRBV theory was used to complement the outcome variable organizational performance. The rule of thumb in NRBV theory states that organizations should evaluate their assets against their environmental performance if they are to again a competitive advantage over competition. Again, the Dynamic capability theory was used in the research to complement green marketing orientation dimension (GMO) which was adopted from (Chamorro & Bañegil, 2006; Gazquez-Abad et al., 2011; Papadas et al., 2017) and operationalized as Strategic green marketing orientation (SGMO), Tactical green marketing orientation (TGMO) and Operational Green marketing orientation (OGMO). The theory posits that, an organization's ability to sense, seize and transform both internal and external opportunities determine its competitive advantage in the market.

Therefore, the capacity of organizations in the food and beverage industry to efficiently sense, seize and transform their green marketing orientation dimension will determine how successful they will be at achieving performance. Additionally, DC theory was applied to Technology

adoption which is used in this research as a mediating variable. Thus, the effective exploitation of scientific knowledge, innovation and tools by organization's especially those in the food and beverage industry can affect their overall performance. Furthermore, the stakeholder theory was used to complement the role of social and ecological thought in the relationship between green marketing orientation dimensions and organizational performance. As a rule of thumb, the theory posits that, for organizations to achieve performance, they must meet the needs and requirements of all stakeholders who affect or are affected by the activities of the organization. Thus, for organizations in the food and beverage industry, consideration must be given to the social and ecological needs of stakeholders if they are to meet any of their performance objectives. Based on the conceptualization by (Chamorro & Bañegil, 2006; Gazquez-Abad et al., 2011; Papadas et al., 2017) the research adopted green marketing orientation dimensions which has been used as the main testable construct for the research. To better understand the study area, a systematic literature review was done and was followed by an empirical review in the area of green marketing orientation dimensions. Specifically, data was taken from the food and beverage industry in the greater Accra region using a survey approach to test and validate the scales developed from literature in the quest to meet the study objective. By way of analysis, smart PLS-SEM was used to test the relationships between the constructs of green marketing orientation dimensions and organizational performance.

Table 9.1: Summary of Research Objective/ Findings

Research objective	Major findings
Objective 1: Examine the relationship between GMO dimensions and Organizational performance	Of the three (3) hypotheses of GMO constructs, two were supported SGMO->PERF with a P-value (0.000) and OGMO-> PERF with a P-value (0.020) while one was rejected TGMO->PERF P-value (0.370).
Objective 2: To test the mediation role of technology adoption on the relationship between GMO dimensions and organizational performance.	All three hypothesized relationships between GMO dimensions, Technology adoption and performance were supported. Thus, there was a positive significant relationship between SGMO->TA->PERF with a P-value (0.000), OGMO->TA->PERF with a P-value (0.040) and TGMO->TA->PERF with a P-value (0.020). Indicating that, technology adoption mediated the relationship between GMO dimensions and OP.
Objective 3: Investigate how social and ecological thought moderates the relationship between GMO dimensions and OP	Of the two hypothesized relationships, only one was supported SET*SGMO->PERF with a P-value (0.030). The other SET*OGMO->PERF with a P-value (0.150) was not supported. The results thus revealed that SET*SGMO->PERF moderates the relationship between (GMO) dimensions and (OP).

Source: Field research findings 2024

9.2 Reflections

This part of the chapter gives indication of the various approaches employed in the conduct of the study. This allows the researcher to make a strong case for the chosen research design and their reliability in revealing the novel contribution of the study. Therefore, this section gives a summary of methodology and theories used, as they form the foundation of the whole study.

9.2.1 Reflection on Research Methodology

The research was conducted using a quantitative approach employing a survey approach through the administration of a structured questionnaire designed to collect primary data from top managers of selected food and beverage manufacturing companies in the greater Accra Region of Ghana. The rationale for the choice of research approach was based on the nature of the questions, and the fact that, there was the need to have a deeper understanding of the relationships between green marketing orientation (GMO) dimensions and organizational performance, especially on how it relates to the food and beverage industry in emerging countries, particularly Ghana, thus the choice of approach Creswell, (2019). Again, the nature of the research questions and hypothesis aligned themselves particularly to a quantitative approach. One of the rationales of the research was to test and verify the relationships between the key constructs of green marketing orientation dimensions (Zebal, 2003). Considering the need to investigate the impact of green marketing orientation dimensions on organizational performance in the food and beverage industry, a firm level analysis was employed thus allowing for the use of a relatively small sample size in order to obtain a more accurate and targeted response for generalization. This research project followed a strict guideline supporting a quantitative approach premised on a positivist philosophy, which assumes an objective approach to conducting research where the researcher is independent of the research from the questionnaire design stage through to collection of data and interpretation stages.

9.2.2 Reflection on Theories

In researching the study area of green marketing orientation dimensions, extensive literature was commissioned to help bring to light the issues emanating from the concept to and to bring perspective on how those issues impact the performance of the food and beverage industry in an emerging country such as Ghana. From the review, there was a lack of consensus regarding

the conceptualization of green marketing orientation dimensions owing to the many perspectives given by different disciplines. To remedy the confusion, this research employed three theories to complement each of the key constructs in the research. Thus, the natural resource based theory (NRBV), Dynamic capability theory (DC) and Stakeholder theory, which have been used in similar studies on GMO and organizational performance as individual theories in extant literature were complemented and used together in this study.

The three theories are seen as resources for the organization and so their effective mix would result in enhanced performance for organization. Natural resource based view theory was used in the study to explain the performance (outcome variable) which was conceptualized as an organization's ability to manage its carbon emissions, energy and water consumption. Additionally, the Dynamic capability theory was used in the study to complement technology adoption, used in the research as a mediating variable and green marketing orientation dimensions, used as an independent variable. The rule of thumb in Dynamic capability theory states that, organizations' sense, seize, and maintain competitive advantage through enhancing, combining, protecting and reconfiguring both their internal and external opportunities to the advantage of the organization. Thus, the ability of organizations in the food and beverage industry to identify scientific knowledge, tools and innovation would help them to adopt production processes in that lead to minimal effects on the environment. The implementation of these innovations, tools and scientific knowledge within the organization will lead to performance. The stakeholder theory was also used in the research to complement the moderating variable of social and ecological thought (SET). The rule of thumb is that, for organizations to achieve competitive advantage, they must ensure all the requirements of the various stakeholders are met. Stakeholders are individuals, groups or entities who affect organizations by their actions or are affected by the actions of organizations. Thus, in the case of the food and beverage industry, their stakeholders would include customers, pressure groups,

competitors, regulators etc. it must be noted however that, apart from the three theories, other theories such as the institutional theory, dependency theory, slack theory etc. Have been applied in the study of green marketing orientation. However, NRBV, Dynamic Capability theory and stakeholder theory was used because they were appropriate in answering the research questions and the hypothesized relationships.

9.3 Implications of Findings

The unsettled conceptualization of green marketing orientation dimensions by several scholars and from various academic disciplines coupled with the conflicting impact of green marketing orientation dimensions on performance led to an extensive literature review in the subject area revealing several contributions to knowledge especially in the food and beverage industry. Even though there are inconsistencies of conceptualization, studies around green marketing orientation dimensions have dwelt on one of the variables from the construct of green marketing orientation dimensions, Strategic green marketing orientation or the other two variables. After extensive review, this study has sought to use all the three dimensions of green marketing orientation as conceptualized by (Chamorro & Bañegil, 2006; Gazquez-Abad et al., 2011; Papadas et al., 2017) as Strategic green marketing orientation (SGMO), Tactical green marketing orientation (TGMO) and Operational green marketing orientation (OGMO). The key findings of this study are discussed below.

1. There was no significant relationship between tactical green marketing orientation and performance. This implies that the incorporation of green marketing initiative within the marketing mix of organizations will not in any way change the perception or green consciousness within the organization. Thus, the implementation of green marketing orientation at the tactical levels of management within the food and beverage industry will not in any way lead to such organizations actually practicing the concepts of green

marketing orientation, as green issues may not be considered a requirement in their quest to reduce carbon emission, reduce water wastage and ultimately reduce energy consumption in their production processes. These findings go contrary to literature, which argues that, the effective implementation of green marketing orientation at the tactical level results in organizations meeting their green performance objectives because of the culture that is built around green orientation (Nguyen-Vet, 2023). This finding could be attributed to green washing where organizations make green claims without necessary practicing them. Again, it could be due to a lack of appreciation of green issues and its apparent implications for the business. These amongst other reasons could have accounted for the insignificant relationship between TGMO->OP

2. Another key finding from the research revealed that social and ecological thought (SET) only moderated performance at the strategic levels of management thus SET* SGMO->PERF and not at the of operational levels of management. This by implication suggests that, once there is recognition of social responsibility and ecological sustainability at the strategic levels of management (Top level) the implementation of green marketing principles within the food and beverage organization is prioritized thus ensuring that, their effort at reducing carbon footprints, energy consumption and water usage is regulated or drastically mitigated. This is so because, once there is alignment at the top level of management, chances are that, they would ensure that, the principles of GMO agreed are cascaded through the other levels of management thus ensuring total compliance at all levels. This finding is supported by (Nilsen et al., 2024; Lancastre et al., 2023) who posit that the implementation of social and ecological thought (SET) leads to environmental performance because of the many stakeholders who have become conscious of green issues and their implication in recent years.

3. Furthermore, the findings revealed that technology adoption used as a mediator intervened the relationship between (SGMO, TGMO, OGMO AND PERF). This implies that the adoption of scientific knowledge, innovations and tools within the food and beverage organization helps managers to manage their carbon footprints, energy consumption and the rate at which they use water. This is achieved through employing efficient scientific innovations by way of machinery that ensures that their production processes have minimal effect on the environment. This finding supports objective two which sought to find out whether an organization's adoption of technology will in any way mediate the relationship between green marketing orientation dimensions and organizational performance. From the findings, however, it was revealed that, technology adoption significantly and fully mediated the relationship between tactical green marketing orientation and performance TGMO->TA->PERF thus implying that organizations in the food and beverage industry must adopt and implement scientific knowledge, tools and innovations within their organization especially at the Tactical levels of management. This is because, it is at this level that, green orientation is imbedded and the marketing mix of the organization is changed to reflect green orientation principles. The change of the traditional marketing mix to green marketing mix thus suggests that, business activities surrounding product/production, transport/ distribution, promotion/ advertisements are carried out with the environment in mind. Additionally, the findings revealed the need for organizations within the food and beverage industry to incorporate technological tools, innovations and scientific knowledge throughout the strategic, operational and tactical levels of management.

9.4 Recommendations

1. Organizations especially those in the food and beverage industry can apply the findings of this research in their mission statements to guide them on how green marketing can be exploited for the general good of the organization. For instance, in their quest to reduce their carbon footprints, reduce energy consumption and water wastage, organizations, especially those in the food and beverage industry can employ technology by introducing scientific knowledge, innovation and tools throughout the various levels of the organization especially at the tactical level where issues of green marketing are imbedded in the marketing mix of the organization.
2. Furthermore, based on the findings of this research, organizations can focus on implementing green marketing orientation at the strategic and operational levels of management. Additionally, it is recommended that, for environmental performance to be achieved, social and ecological imperatives must be understood and aligned only at the top levels of management before issues of green marketing can really be implemented throughout the organization.
3. Practitioners in the marketing discipline based on the findings presented may be guided by the role of technology adoption on performance and so be able to advise organizations on the need to adopt scientific knowledge and innovations and use technological tools in their operations to help in reducing or mitigating the effect of their operations on the environment. Additionally, practitioners in the marketing space may also use the research findings as a guide when advising organizations on the best way to increase environmentally related performance indicators within an organization.

9.5 Implication for future research

Here the researcher espoused what should result from this research. For example, what effect will the findings of this study have on practitioners, academics and policy?

1. For marketing practitioners especially green marketers, research highlights the critical contributions of green marketing orientation dimension on an organizations ability to reduce the effects of their activities on the environment and serves as a tool for practitioners as they guide organizations in a market that is largely becoming green conscious. The failure of practitioners to adhere to these nuances could have grievous implications on the survival of the organizations they lead. This is so because, from the study, it was revealed that only two of the three green marketing orientation variables aided organizations in the food and beverage industry in their quest to achieve reduced carbon footprints, reduced energy consumption and water management while one failed to support the assertion. Thus, Strategic green marketing orientation (SGMO), Operational green marketing orientation (OGMO) supported the claim while Tactical green marketing orientation (TGMO) failed to support it. This knowledge is critical to the decision-making capability of practitioners as it exposes the apparent misconception that, once green marketing is incorporated into the marketing mix of an organization, the organization will automatically change its orientation towards the implementation of green marketing. Again, the findings of the research revealed that, Technology adoption is integral to the achievement of an organizations performance as the findings revealed a positive direct relationship between SGMO, TGMO and OGMO on performance. This finding is important because it allows practitioners to appreciate the critical role of scientific knowledge on or in the achievement of organizational performance. This revelation thus helps practitioners to properly advise management, especially those in the food and beverage industry, on the need to adopt

these scientific knowledge and innovations in their operations. Failure, to appreciate this could adversely affect the fortunes of the organization since their activities may not result in or enhance green imperatives as set within the organization.

2. Again, the future implication of this research is necessary because it serves as a point of reference for students, researchers and members of the academic community as it sheds insights on the impact of green marketing orientation dimensions on organizational performance especially in the food and beverage industry in Ghana. These findings of the research will further enhance the fields of research especially in the growing areas of green marketing. The paucity of research in this area may expose the limited knowledge in the area and as a result may limit the information available for organizations in the food and beverage industry to achieve their set performance indicators as explained above.
3. Furthermore, the result of this research is cogent research material to aid policy formulation at the governmental level. The findings of this research, as discussed in chapter eight of the study, provides policy makers with insights into green marketing orientation and how governments and industry players can work together to ensure that the activities of organizations do not negatively affect the environment. For example, one of the key findings of this research is that, the long-held view that, organizations who adhere to meeting the social and ecological requirements of their internal and external customers are more inclined to want to reduce their carbon footprints, reduce energy consumption and water usage all in the name of being green conscious was not supported at the operational and tactical levels of management in this research. This information should inform policy on what actually influences green performance and not necessarily relying on long held beliefs that may not support empirical findings.

This finding allows policy makers to appreciate what exactly influences organizations when it comes to issues of green marketing.

9.6 Contribution to Knowledge

1. A SEM analysis of the various relationships between green marketing orientation dimensions revealed that, of the three dimensions of green marketing orientation namely strategic green marketing orientation, tactical green marketing orientation and operational green marketing orientation, tactical green marketing orientation did not support the relationship between green marketing orientation and organizational performance. This conclusion is at variance with the generally accepted conclusions in literature that, a well-orchestrated tactical green marketing strategy can mitigate misinformation and enhance consumer acceptance of green messaging leading to performance (Van Eenennaam & Werth, 2021). This contributed to the scanty knowledge in this domain.
2. Again, Li et al. (2022) opined that, organizations employing tactical green marketing orientation can benefit from enhanced operational efficiencies and improved reputation, which are critical components of overall performance metrics. Following the above, the study contributed to green marketing knowledge by revealing that, only employing green marketing orientation at the tactical levels of management will not result in the organization achieving performance even if such green initiatives are within the short-term strategy of the organization or even employed within the marketing mix of the organization as seen in the insignificant results.
3. Also, the study contributes to knowledge on social and ecological thought marketing by revealing that the implementation of green marketing orientation at the operational levels does not in any way strengthen the relationship between green marketing

orientation and organizational performance. This in essence means that, to achieve organizational performance, implementing and altering the marketing mix in support of green marketing orientation as well as implementing green marketing orientation in the day-to-day operations of the organization will not strengthen or weaken organizational performance. On the contrary, organizational performance can only be achieved if the principles of green marketing orientation are imbedded at the strategic level where the concept is implemented at the top levels of management and thus made part of the culture of the organization. This result is consistent with findings from previous research that suggest a gap often exists between sustainability rhetoric and practice (Caiado et al., 2019).

4. Additionally, the study contributed to knowledge by revealing that, operational green marketing orientation (OGMO) and strategic green marketing orientation (SGMO) are the ideal organizational levels where green marketing orientation should be implemented if performance is to be achieved as seen in the significant p -value in the path analysis above.
5. The study further contributed to knowledge by addressing the gap in literature and addressing it in this study i.e., that most studies in green marketing orientation are individualistic, market-centric and pursuing a profit-maximizing narrative. This issue thus resulted in calls for studies in the area to change to embrace a more integrated, holistic, and socio-environmentally focused narrative (Lovins et al., 2018; Waddock, 2021a; Waddock, 2021b). This knowledge gap led to the study integrating green marketing orientation dimensions (SGMO, TGMO and TGMO) to examine how they together impact on organizational performance. From the result, TGMO was not supported thus pointing to the importance of SGMO and OGMO in achieving performance especially in the food and beverage industry.

6. Further addressing the gap, the study answered the call to incorporate social and environmental narratives, which were the main moderating variables. This was done by introducing social and ecological thought (SET) marketing as a moderator in the relationship between green marketing orientation dimensions and organizational performance to address the social and ecological issues that have seen a paucity of research in literature.
7. Finally, the study contributed to the study of green marketing orientation dimensions literature in the food and beverage sector, focusing on distilleries, breweries, bottled and sachet water producing companies and dairy product manufacturers located within the greater Accra region of Ghana. These specific sectors have seen little or no studies in GMO especially in the Ghanaian context.

9.7 Limitations and directions for future research

Resource constraints impacted the generalizability of the findings to the entire population of manufacturing companies in Ghana thus limiting the study only to the food and beverage industry in the greater Accra region. Again, difficulty in meeting responding organizations limited the number of respondents, thus affecting the depth and breadth of the data collected and analysed. Though the choice of a quantitative research method ensured rigor, a mixed method would have added to the richness of the study by collecting and interpreting individual perceptions of green marketing orientation and its role in achieving organizational performance. To achieve generalizability therefore, future research should employ the qualitative method in order to get an in-depth understanding of the issues within green marketing orientation. The study could also be replicated in other sectors of the manufacturing industry and across the country to give a holistic and generalized view of the findings.

9.8 Chapter Summary

Chapter Nine provided a comprehensive conclusion to the research on green marketing orientation (GMO) dimensions and their impact on organizational performance in Ghana's food and beverage industry. The study examined three main objectives: (1) To investigate the impact of GMO dimensions on organizational performance (2) To investigate how technology adoption mediates the relationship between green marketing orientation and organizational performance (3) To examine how social and ecological thought (SET) moderates the relationship between green marketing orientation and organizational performance. Key findings revealed that seven out of eight direct GMO hypotheses were supported. Technology adoption mediated the relationship between GMO dimensions and organizational performance. Nevertheless, the moderation analysis indicated that SET*OGMO->PERF did not have a moderating influence on performance whereas SET*SGMO->PERF had a significant positive relationship with performance. The research employed quantitative methodology using survey data from food and beverage companies in Greater Accra. The research was complemented by three theoretical frameworks: Natural Resource-Based View, Dynamic Capability, and Stakeholder theories. The implications of this research work therefore imply that organizations should ensure the implementation of strategic and operational green marketing orientation within their companies and ensure the adoption of technology as it helps improve production efficiency leading to the reduction of carbons into the environment, limiting energy consumption and reducing water wastage in the production process. Thus, the result highlights theoretical contribution to academia and offers useful suggestions to industry experts and policy makers on issues relating to carbon footprints, energy audit, and water management. Further research avenues can thus be considered, which should target these relationships in different contexts and industries.

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APPENDICES

Appendix 1: QUESTIONNAIRE

UNIVERSITY OF GHANA
DEPARTMENT OF MARKETING AND ENTERPRENEURSHIP
BUSINESS SCHOOL
RESEARCH QUESTIONNAIRE

Dear Sir/Madam,

I am a Ph.D. student at the University of Ghana, Legon. I invite you to share your views on the topic "***impact of green marketing orientation dimensions on organizational performance: A mediation and moderation analysis".*** Answering this questionnaire will take about 30 minutes of your time. You will be contributing immensely towards the success of this research and knowledge if you answer these questions as honestly as possible. Your identity and that of your firm will not be disclosed in any data or report. Survey responses will not be linked with any personal or formal records.

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

I would be very grateful if I could get the completed questionnaire within a week. If you need any further clarification on this questionnaire, its purpose, or you wish to be informed of the results of the study, please contact me on 0 24 482 4216 or through email: mwin.norbert@gmail.com or mwin.norbert@yahoo.com. I appreciate your valuable time and input.

SECTION A: BACKGROUND INFORMATION

1. Which sector of manufacturing is your firm in?
   Food and Beverage processing [ ] Rubber and Plastics [ ] Steel [ ] Textiles [ ]

2. Kindly indicate the age of your firm in years ……

3. What is your business' ownership type? Foreign [ ] Domestic [ ]

4. Please indicate your position in the firm:
   Top level [ ] Middle level [ ] Lower level [ ] others,

   State……

5. Please indicate the legal form of the business
   Sole Trader [ ] Partnership [ ] Limited Liability Company [ ] others,

   State……..……

6. How many employees does your firm have?
   1 to 50[ ] 51 – 100 [ ] 101– 500[ ] 501-1000[ ] more than 1000 [ ]

8. Please indicate your highest educational qualification
(a) Doctorate [ ] (b) Masters [ ] (c) First Degree [ ] (d) HND [ ] (d) Others:

Specify…….

8. Please indicate the region your firm is located
   Greater Accra [ ] Ashanti [ ] Western [ ]

9. Is your firm ISO 14001 certified? YES [ ] NO [ ]

SECTION B: GREEN MARKETING ORIENTATION

On a scale of (1 = Strongly Disagree to 7 = Strongly Agree) please tick {√} your level of agreement with the existence of the following practices in your firm.

GS	STRATEGIC MARKETING ORIENTATION	1	2	3	4	5	6	7
GS1	Our firm actively incorporates environmental concerns into our strategic planning							
GS2	Our firm prioritizes sustainable sourcing practices for materials used in our production processes.							
GS3	Our firm actively seeks to reduce its negative impact on the environment caused by its business activities							
GS4	Our firm implements pollution prevention measures to minimize environmental pollution							
GS5	Our firm focuses on product management to ensure environmentally friendly practices							
GS6	Our firm utilizes green innovations to reduce waste and improve the environment.							
GS7	Our firm actively seeks feedback and input from stakeholders to improve our green marketing strategies							

GT	TACTICAL MARKETING ORIENTATION	1	2	3	4	5	6	7
GT1	Our firm redesigns delivery processes and production processes to reduce pollution							
GT2	Our firm reprocesses raw materials and by-products to minimize pollution.							
GT3	Our firm promotes and displays eco-labels and certifications on our products to communicate their environmental attributes.							
GT4	Our firm encourages consumers to make environmentally responsible choices through our marketing campaigns							
GT5	Our firm incorporates environmental issues at the tactical level to obtain unique sustainable competitive advantages							
GT6	Our firm actively promotes recycling and encourages consumers to properly dispose of our packaging materials.							
GT7	We prioritize energy-saving measures, such as energy-efficient equipment or lighting							
GOS	**OPERATIONAL MARKETING ORIENTATION**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
GOS1	Our firm complies with government regulations related to environmental protection on a daily basis							
GOS2	Our firm considers market demand for environmentally friendly products in its operations							
GOS3	Our firm aims to develop a good ethical image through our operations							
GOS 4	Our firm transfers green innovation technology and knowledge to reduce external costs							
GOS 5	Our firm believes that adopting green operational strategies can lead to sustainable competitive advantages							
GOS6	Our firm actively seeks feedback and input from stakeholders to improve our green marketing strategies							

Section C: TECHNOLOGY ADOPTION

On a scale of 1 (1 = Strongly Disagree to 7 = Strongly Agree), please tick {√} please indicate your level of agreement on the adoption of **Technology in** your firm.

TA	TECHNOLOGY ADOPTION	1	2	3	4	5	6	7
TA1	Our firm has adopted energy-efficient manufacturing technologies							
TA2	This firm has adopted production processes that avoid raw material waste and high energy consumption							
TA3	Our firm has implemented water conservation technologies to reduce water usage in our production processes							
TA4	Our firm utilizes technology-driven packaging solutions to reduce environmental impacts							
TA5	Our firm utilizes technology solutions to optimize our supply chain and reduce environmental impacts							

TA6	Our firm utilizes digital marketing and communication technologies to promote our green marketing initiatives							
TA7	Our firm utilizes data analytics and performance monitoring technologies to track and improve our environmental performance							

SECTION D: SOCIAL AND ECOLOGICAL THOUGHT(SET)

On a scale of 1 On a scale of (1 = Strongly Disagree to 7 = Strongly Agree), please tick {√} please indicate your level of agreement on the adoption of social and ecological thought (SET) in your firm.

SET	SOCIAL AND ECOLOGICAL THOUGHT(SET)	1	2	3	4	5	6	7
SET1	Our firm is familiar with Social Ecological Thought and actively seeks information and resources related to it to enhance and contribute to our green marketing efforts							
SET 2	Our firm incorporates Social Ecological Thought principles into its sustainability strategy							
SET 3	Our firm seeks collaborative opportunities with stakeholders to address social and ecological challenges in the industry.							
SET 4	Our firm promotes equity and social justice in our business practices and interactions							
SET5	Our firm actively seek innovative solutions to protect and restore the environment in line with Social Ecological Thought principles							
SET6	Our firm recognizes the importance of building resilience and adapting to changing environmental and social conditions							
SET7	Our firm actively promotes educational initiatives to enhance understanding of Social Ecological Thought principles							
SET8	Our firm demonstrates a commitment to environmental stewardship by minimizing our ecological footprint							

SECTION E: FIRM PERFORMANCE AND VALUES

On a scale of (1 = Strongly Disagree to 7 = Strongly Agree), please tick {√} your level of agreement with the following Firm Objectives and Values measures since you adopted green marketing.

CEO	CARBON EMISSIONS	1	2	3	4	5	6	7
CEO1	Our firm has clearly defined objectives to reduce carbon emissions in its production processes.							
CEO2	Our firm sets specific targets to decrease greenhouse gas emissions associated with our products and processes							
CEO3	Our firm regularly monitors and reports its carbon emissions to ensure progress towards reduction goals.							

CEO4	Our firm invests in technologies and practices to minimize carbon emissions throughout the supply chain							
CEO5	Our firm has ISO 14000 certification on environmental and safety compliance							
WWO	**WATER MANAGEMENT**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
WWO1	Our firm aims to minimize water wastage in the production of our products							
WWO2	Our firm has set targets to reduce the amount of water consumed per unit of the products manufactured							
WW03	Our firm actively implements water conservation measures to prevent unnecessary water wastage							
WWO4	Our firm regularly assesses and improves water management practices to achieve sustainability objectives							
WWO5	Our firm practises waste segregation in its operations							
WWO6	This firm has an internal environmental management system (EMS)							
ECO	**ENERGY CONSUMPTION**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
ECO1	Our firm has established goals to reduce energy consumption in the production and distribution of our products							
ECO2	Our firm implements energy-efficient technologies and processes to minimize energy usage							
ECO3	Our firm invests in renewable energy sources to decrease reliance on non-renewable energy							
ECO4	Our firm continuously evaluates and updates energy management practices to meet sustainability targets							
ECO5	Our manufacturing firm regularly monitors and analyses energy consumption data to identify areas for improvement							
ECO6	Our manufacturing firm provides training and awareness programs to employees on energy conservation practices							
ECO6	Our manufacturing firm regularly communicates with stakeholders about our energy conservation efforts							
THV	**TRUST AND HONESTY VALUES**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
THV1	The firm demonstrates a high level of transparency in its operations							
THV2	The firm consistently communicates its environmental practices and initiatives to stakeholders							

THV3	The firm follows ethical business practices in all aspects of its operations							
THV4	Employees are encouraged to speak up about any ethical concerns they may have							
THV5	The firm values open and honest communication among employees.							
THV6	Our firm prioritizes honesty in communicating its green products and services							
THV7	The firm holds itself accountable for its environmental claims and commitments							

THANK YOU FOR YOUR VALUABLE TIME!

Appendix 2: Sources of measurement Items

Constructs	Authors
Social and ecological thought (SET)	Dunlap and Van Liere (1978), Dunlap, Van Liere, Mertig, and Jones (2000), Stern, Dietz, Abel, Guagnano, and Kalof (1999), Pratto, Sidanius, Stallworth, and Malle (1994), Clayton, Devine-Wright, Swim, and Bonnes (2009)
Green marketing orientation (GMO) Dimensions (Strategic green marketing orientation, Tactical green marketing orientation, Operational green marketing orientation)	Zhu et al., (2012), Rickards et al. (2014), Dai et al. (2017), Li et al. (2016), Zhang, Wang, & Zhao, (2019), Aboelmaged & Hashem, (2019), Chen & Liu, (2020), Sanni (2018), Chamorro and Banegil (2006), Gazquez Abad (2011), Papadas (2017)
Technology adoption (TA)	(Zhang et al., 2011), Tsai and Liao (2017), Yang et al. (2018), (Chege & Wang, 2020)
Firm Performance Carbon dioxide emission, water wastage, energy consumption objectives	(Yu et al. (2017), (Fernando et al., 2019), Pacheco et al. (2017), Bossle et al. (2016), Xavier et al. (2020), Ch'ng, Cheah, & Amran (2021, (Sancha, Wong, & Thomsen, 2016), Roper & Tapinos, (2016)

UNIVERSITY OF GHANA
ETHICS COMMITTEE FOR THE HUMANITIES (ECH)

P. O. Box LG 74, Legon, Accra, Ghana

My Ref. No: ECH 171/ 23-24

April 02, 2024

Mwin Norbert
Department of Marketing and Entrepreneurship
University of Ghana Business School
Legon

ETHICAL CLEARANCE
(ECH 171/ 23-24)

The Ethics Committee for the Humanities (ECH) conducted a full-board review and approved your protocol titled:

IMPACT OF GREEN MARKETTING STRATEGIES ON ORGANIZATIONAL PERFORMANCE: A MEDIATION AND MODERATION ANALYSIS

PRINCIPAL INVESTIGATOR: **MWIN NORBERT**

Please note that the final review report must be submitted to the Committee at the completion of the study. Your research records may be audited at any time during or after the implementation. Any modification of this research project must be submitted to ECH for review and approval prior to implementation.

Please report all serious adverse events related to this study to ECH within seven (7) days verbally and in writing within fourteen (14) days.

This certificate is valid until April 01, 2025. You are required to submit annual reports for continuing review.

Please accept my congratulations.

Yours Sincerely,

Professor Akosua K. Darkwah
ECH Vice-Chair

Cc: Professor E. Y. Tweneboah-Koduah, Dept. of Marketing and Entrepreneurship, UG
Professor Mahmoud Abdulai Mahmoud, Dept. of Marketing and Entrepreneurship, UG

UNIVERSITY OF GHANA

Carnegie Writing Centre
P.O Box LG 69, Legon
Accra, Ghana

20th November ,2025

The Head
Department of Marketing and Entrepreneurship
University of Ghana Business School
Legon.

Dear Sir,

LETTER OF CONFIRMATION

I write to confirm that Mr. Norbert Mwin, a PhD candidate from the University of Ghana Business School, submitted his thesis to our unit for editing.

His thesis, titled "**The Impact of Green Marketing Orientation Dimensions: A Mediation and Moderation Analysis of the Beverage Industry in Ghana**" was edited by Mrs. Esther Nyarko Mensa, a resource person at the Centre.

Thank you.

Yours faithfully,

Prof. Josephine Dzahene- Quarshie

Dean, School of Languages