

**KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**THE MEDIATING ROLE OF GREEN INNOVATION IN THE RELATIONSHIP  
BETWEEN CORPORATE SOCIAL RESPONSIBILITY AND FIRM  
PERFORMANCE**

**BY  
HAMZAH AMADU ABDUL  
(PG3952220)**

**A THESIS SUBMITTED TO THE DEPARTMENT OF MARKETING AND  
CORPORATE STRATEGY OF THE SCHOOL OF BUSINESS, KWAME  
NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY, KUMASI IN  
PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF  
MASTER OF BUSINESS ADMINISTRATION IN STRATEGIC MANAGEMENT  
AND CONSULTING.**

**NOVEMBER, 2023**

## DECLARATION

I hereby declare that this submission is my own work towards the Master of Business Administration in Strategic Management and Consulting and that to the best of my knowledge, it contains no material previously published by another person nor materials which have not been accepted for the award of another degree in this University or elsewhere, except where due acknowledgement has been made in the text.

Hamzah Amadu Abdul .....  
(PG3952220) Signature Date

Certified By:  
Dr, Enya Ameza-Xemalordzo .....  
(Supervisor) Signature Date

Certified By:  
Prof. Ahmed Agyapong .....  
(Head of Department) Signature Date

## DEDICATION

I sincerely dedicate this thesis to my entire family in appreciation of their unwavering support during my MBA journey. My dearest Maud Offeibea Asante has my deepest gratitude for her assistance and prayers during the process.

# KNUST



## ACKNOWLEDGEMENT

I first and foremost, I would want to express my heartfelt appreciation to God for the grace and mercies on me throughout this MBA journey amidst the COVID-19 pandemic, to my lecturers for imparting this depth of knowledge in my studies which is highly applicable in real life as well as in my career. My special acknowledgement to my supervisor, Dr. Enya Xemalordzo, and his assistant, Mr. Klenam k. Ledi for the guidance in writing this thesis.



## ABSTRACT

The aim of the study was to evaluate the mediating role of green innovation on the relationship corporate social responsibility and firm performance. The study employed explanatory and descriptive research design. Thus, the study employed quantitative research method for data gathering and interpretation. The population of the study was employees of selected firms in Kumasi. The study considered a sample size of 200 respondents, primary source of data was collected on the field using structured questionnaires and convenience sampling technique. The data collected was analysed using Statistical Package for Social Sciences (SPSS). The study found that corporate social responsibility has a significant positive relationship with firm performance. Corporate social responsibility explains 51.7% of variability in firm performance. The study found that corporate social responsibility has a significant positive relationship with green innovation. The study found that green innovation has a significant positive relationship with firm performance. Moreover, the study found that green innovation mediates the relationship between corporate social responsibility and firm performance. The study recommends that companies should integrate CSR into their overall business strategy, rather than treating it as a separate initiative. This can involve setting specific CSR goals and metrics, and regularly tracking and reporting progress. Additionally, companies should prioritize creating a culture that supports innovation, including by encouraging experimentation, risk-taking, and creativity. This can involve providing resources and support for innovation initiatives, as well as promoting a growth mindset among employees.



## TABLE OF CONTENTS

<b>DECLARATION .....</b>	<b>ii</b>
<b>DEDICATION .....</b>	<b>iii</b>
<b>ACKNOWLEDGEMENT .....</b>	<b>iv</b>
<b>ABSTRACT.....</b>	<b>v</b>
<b>TABLE OF CONTENTS .....</b>	<b>vi</b>
<b>LIST OF TABLES.....</b>	<b>viii</b>
<b>LIST OF FIGURES .....</b>	<b>ix</b>
<b>CHAPTER ONE .....</b>	<b>1</b>
<b>INTRODUCTION .....</b>	<b>1</b>
1.1 Background of the study .....	1
1.2 Problem statement .....	3
1.3 Research Objective .....	4
1.4 Research Question .....	4
1.5 Significance of the Study.....	5
1.6 Scope of study.....	5
1.7 Brief Methodology.....	5
1.8 Organization of the study.....	6
<b>CHAPTER TWO .....</b>	<b>7</b>
<b>LITERATURE REVIEW .....</b>	<b>7</b>
2.1 Introduction.....	7
2.2 The Concept of Corporate Social Responsibility .....	7
2.2.1 Benefits of Corporate Social Responsibility (CSR) .....	9
2.3 Dimensions of Corporate Social Responsibility .....	12
2.3.1 Social dimension.....	12
2.3.2 Environmental dimension .....	13
2.3.3 Economical dimension.....	14
2.4 Green innovation .....	15
2.5 Types of Green innovation .....	19
2.5.1 Green product innovation .....	19
2.5.2 Green process innovation .....	20
2.5.3 Green organizational innovation.....	21
2.6 Firm performance .....	22
2.7 Theoretical Review .....	23
2.8 Hypothesis development.....	25

2.8.1 Corporate Social Responsibility and Firm performance .....	25
2.8.2 Corporate Social Responsibility and green innovation .....	28
2.8.3 Green innovation and firm performance.....	29
2.8.4 CSR, Green innovation and Firm performance .....	30
<b>CHAPTER THREE.....</b>	<b>33</b>
<b>METHODOLOGY .....</b>	<b>33</b>
3.1 Introduction.....	33
3.2 Research design .....	33
3.3 Research Strategy .....	34
3.4 The Population of the Study .....	35
3.5 Sample size and Sampling Technique .....	35
3.6 Data Sources .....	36
3.7 Methods of Data Collection.....	36
3.8 Reliability and validity of the study.....	37
3. Data Analysis.....	38
<b>CHAPTER FOUR .....</b>	<b>39</b>
<b>RESULTS AND DISCUSSIONS.....</b>	<b>39</b>
4.1 Introduction.....	39
4.2 Profile of the respondents. ....	39
4.3 Reliability .....	40
4.4 Descriptive and Correlation Matrix .....	41
4.5 Hypothesis testing.....	42
4.6 Discussions .....	44
<b>CHAPTER FIVE .....</b>	<b>48</b>
<b>SUMMARY OF THE FINDINGS, CONCLUSION AND RECOMMENDATION 48</b>	
5.1 Introduction.....	48
5.2 Summary of the findings .....	48
5.3 Conclusion .....	49
5.4 Recommendation .....	50
<b>REFERENCE.....</b>	<b>52</b>
<b>KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY .....</b>	<b>67</b>
<b>QUESTIONNAIRE .....</b>	<b>67</b>

## LIST OF TABLES

Table 4.1 Demographic profile of respondents .....	39
Table 4.2 Reliability Test .....	40
Table 4.3 Descriptive and Correlation matrix .....	41
Table 4.4 Regression analysis.....	43





## LIST OF FIGURES

Figure 2.1 Conceptual Framework .....	32
---------------------------------------	----

# KNUST



## CHAPTER ONE

### INTRODUCTION

#### 1.1 Background of the study

Corporations are now anticipated to significantly contribute to society's sustainable development (Bikefe et al., 2020; Dartey-Baah and Amoako, 2021; Kim et al., 2022), reflecting a significant shift in the perception of organisations' roles and responsibilities. Companies are under increasing pressure to engage in corporate social responsibility and support the communities in which they do business (Melissen et al., 2018; Doshmanli et al., 2018; Jamali et al., 2017; Bello et al., 2016). As the importance of CSR in defining how firms should be judged rises (Makanyezaa et al., 2018; Moneva & Hernández-Pajares, 2018; Kucharska & Kowalczyk, 2019), so does the level of scrutiny placed on companies. Corporate social responsibility refers to a company's efforts to benefit its stakeholders, improve society, and further sustainable development (Tuan, 2016). Taking care of the environment, giving back to the community, and striking a work-life balance are all aspects of corporate social responsibility, as defined by Linh (2011). CSR initiatives increasingly prioritise business strategy, which is intrinsically linked to an organization's ability to compete and achieve its financial objectives. Corporate social responsibility can be seen as a way to aid worthy causes, but it can also be seen as a marketing tool to increase brand awareness (Khater, 2019). By strengthening ties with influential groups, CSR boosts business results (Lee et al., 2017). Therefore, companies can utilise CSR activities to not only get favourable stakeholder behaviour and attitude, but also to strengthen firm-stakeholder bonds and enhance the company's public image (Du et al., 2010). This demonstrates that CSR investment is a source of competitive advantage rather than only

an expense or limitation (Lee et al., 2017). Companies that excel in pleasing their constituents are more likely to succeed overall (Kong et al., 2019; Zhang et al., 2022).

There has been growing pressure on businesses to improve their non-financial performance in areas like environmental impact, social welfare, and fair employment policies in recent years. Investors, politicians, and other stakeholders are slowly but steadily finding common ground on sustainability issues, and they all see sustainability reporting (performance) as an essential step towards reaching broader climate and sustainability goals (Mbanyele et al., 2022). Therefore, the green market is increasingly important for corporations in the age of sustainability (Tjahjadi et al., 2020). Since we now live in the era of green business (DeBoer et al., 2017; Soewarno et al., 2019), companies must pay attention to their environmentally friendly competitors. In addition, there is mounting evidence that corporate social responsibility can boost innovation, customer happiness, environmental cost savings, and public impressions of the organisation as a whole (Jamali et al., 2017). "Green innovation" (Tjahjadi et al., 2020) refers to an organization's capacity to innovate in a way that reduces its environmental impact and satisfies the needs of the green market. Companies can enhance their environmental performance and bottom line by getting ideas for green innovation from their CSR efforts (Costantini et al., 2017; Tariq et al., 2019). A green market orientation encourages environmentally responsible practises within companies since it heightens public awareness to protect the environment (Papadas et al., 2017; Vilkaite-Vaitone et al., 2019). Similarly, when a company's social responsibility efforts are well-communicated and live up to stakeholder expectations, the company's success improves (Claire, 2017; Heald, 2018; Kong et al., 2019; Wanjiku, 2019; Asrarul-Haq et al., 2021). Therefore, value is created and the performance of a business is positively impacted when a company fulfils

its social duties in a way that is transparent with its stakeholders and meets their expectations (Alamgir & Uddin, 2017).

## **1.2 Problem statement**

Many studies have been conducted on the topic of corporate social responsibility and its impact on profits, but the results have been mixed at best (Kim, 2022; Renderson, 2022; Asrar-ul-Haq et al., 2020; Kong et al., 2019; Wanjiku, 2019; Samuel & Mqomboti, 2017; Schaan, 2017). The inconclusiveness of the relationship between CSR and firm performance creates the impetus to further examine this relationship, as well as the fact that there are calls for these concepts to be further examined in developing countries (Dartey-Baah and Amoako, 2021). While most research have focused on the influence of CSR performance on short-term company performance and shareholder welfare, the true implications of CSR success on long-term performance and social welfare have remained largely unexplored (Mbanyele et al., 2022). As a result, there is scant research into how well businesses are at creating innovations that address environmental concerns (Mbanyele et al., 2022). Sustainability and social responsibility are important to CSR, according to Behringer and Szegedi (2016). CSR is primarily concerned with micro-level eco-efficiency and win-win solutions for businesses (Dyllick and Muff, 2016; Ye et al., 2020). Similarly, there is limited information on how CSR may contribute to fields like green innovation and other forms of sustainability. Whether or if CSR encourages environmentally beneficial innovation remains an empirical open question that necessitates additional study. The study sought to fill these gaps in the literature. The purpose of this research was to evaluate green innovation's ability to mediate the connection between corporate social responsibility and firm performance.



### **1.3 Research Objective**

Generally, the aim of the study was to evaluate the mediating role of green innovation on the relationship corporate social responsibility and firm performance. The following are the specific objectives:

1. To assess the effect of corporate social responsibility on performance of manufacturing firms
2. To examine the relationship between corporate social responsibility and green innovation
3. To evaluate the effect of green innovation on performance of manufacturing firms
4. To analyse the mediating role of green innovation in the effect of corporate social responsibility on performance of manufacturing firms

### **1.4 Research Question**

The following research questions were formulated to guide the study:

1. What is the effect of corporate social responsibility on performance of manufacturing firms?
2. What is the relationship between corporate social responsibilities on green innovation?
3. What is the effect of green innovation on performance of manufacturing firms?
4. What is the mediating role of green innovation in the relationship between corporate social responsibility and performance of manufacturing firms?



### **1.5 Significance of the Study**

Numerous studies have been conducted to determine whether or not CSR has an impact on firm performance, but the findings have been mixed (Kim, 2022; Renderson, 2022; Asrar-ul-Haq et al., 2020; Kong et al., 2019; Wanjiku, 2019; Samuel & Mqomboti, 2017; Schaan, 2017). The inconclusiveness of CSR creates the impetus to further examine this relationship, as well as the fact that there are calls for these concepts to be further examined in developing countries (Dartey-Baah and Amoako, 2021). The study's results add to the current body of knowledge, which is good for the academic community as a whole. This study will be useful for researchers studying the connection between CSR, green innovation, and company performance. As a result of its focus on CSR, green innovation, and company success, this research is also useful for professionals working in the field. It can help businesses, particularly manufacturers; improve the effectiveness of their management methods for fostering positive relationships with their many stakeholders.

### **1.6 Scope of study**

The purpose of this research was to examine the connection between CSR, green innovation, and financial performance. That is, to measure how much of an impact CSR and new approaches to problem solving have on the bottom line. This is why the study considered the interconnectedness of CSR, green innovation, and firm performance etc. Geographically, the study area focused on firms in Kumasi.

### **1.7 Brief Methodology**

The study used a descriptive explanatory research approach to assess green innovation's moderating effect on the connection between CSR and business performance. As a result,

this study used a quantitative approach to collecting and analysing its data. In addition, primary data was gathered in the field using questionnaires. Kumasi employees from participating firm served as the study's population. The study had 200 participants as the sample size. Convenience sampling was used to select respondents who would fill out the surveys. The information gathered was analysed using SPSS.

### **1.8 Organization of the study**

There are five parts to the study. In the first chapter, there was information about the background of the study, a statement of research problems, research questions, specific research goals, the importance of the study, an overview of the methodology, the scope of the study, and ethical concerns. The second chapter looks at the relevant and related literature to the study. This includes corporate social responsibility, ecological innovation, and firm success, among other things. In the third part, the researcher talks about how he or she did the study. This includes the research philosophy, design, approach, population, sampling methods, data collection method, and analysis. In Chapter Four, the collected data are examined, shown, and talked about in line with the study's goals. Chapter 5 ends with a summary of the main results, the study's conclusions, and any suggestions that are needed.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This element of the inquiry focuses on relevant literature pertinent to the investigation's issue. The conceptual review, theoretical review, empirical review, and conceptual framework were all discussed in this chapter.

#### **2.2 The Concept of Corporate Social Responsibility**

The academic perspective on corporate responsibility has been around for over seven decades (Frederick, 1994), and it emphasises not only economic maximisation but also social activity. The public and private sectors alike have made CSR a top priority. CSR has significant influences on actual business practises due to its positive effects on stakeholder relations and company credibility. Increases in the number of multinationals providing specialised divisions to oversee CSR efforts have been documented (Vogel, 2005; Du et al., 2010). CSR has been defined and explained in a variety of ways, but there is stillroom for debate (Moon, Crane, & Matten, 2005). Concerning ethical methods of dealing with social and environmental problems, Corporate Social Responsibility presents a challenge to businesses. Taking into account its potential environmental impact and the concept of business as social action, it is put to the test (Tjahjadi et al., 2021, Moon et al., 2005). Comprehensively analysing environmental, social, economic, stakeholder, and volunteer factors, the term "corporate social responsibility" (CSR) is broken down into its five component parts (Dahlsrud, 2008). Company strategy involves provoking the local economic system by incorporating political confrontation with the local culture (Hermanto et al., 2021). However, CSR is core to business operations, which means that social considerations in capability exploitation are central to how a company conducts its daily

operations. When it comes to making decisions that will have a positive impact on the company's and the community's long-term viability, business sustainability is ultimately in charge ((Hermanto et al. According to Davis (1973), corporate social responsibility (CSR) occurs when a company takes into account and addresses problems that go beyond the company's immediate economic, technological, and legal needs. Carrol (1979) suggests that a company's social responsibility might be visualised as a pyramid, with economic responsibilities at the base, legal and ethical responsibilities in the middle, and benevolent philanthropy at the top. When a company acts in a way that seems to benefit society as a whole rather than just the company and its shareholders, we call that "corporate social responsibility" (McWilliams et al., 2006). According to the work of Bhattacharya et al. (2009), CSR is "an organization's voluntary commitment to enhance community well-being through the implementation of business practises and the provision of corporate resources." CSR include initiatives that benefit society in areas such as education, employment, training, workplace safety, product quality, environmental preservation, conservation of natural resources, human rights, community development, and charitable giving (Frederick, 1994).

In Friedman's (1962) view, a corporation's only duty is to maximise profit for its shareholders while still adhering to all applicable rules, norms, and laws. According to Carroll (1979), CSR is concerned with meeting societal, legal, ethical, and financial obligations. As a foundational framework for CSR growth, Freeman's (1984) stakeholder model is widely recognised as an industry standard. Stakeholders are defined either here as any group that could be impacted by a company's actions, positively or negatively. Finding the right groupings of stakeholders is a crucial aspect of Jones's (1995) stakeholder model. Corporate social responsibility (CSR) is increasingly being implemented by businesses and is seen as an important part of strategic planning for corporations.



Managers see CSR as more than just doing well; it also aids businesses in gaining a competitive edge in the end. According to the authors, CSR is a company's commitment to balancing its bottom line with its impact on the environment, its employees, its customers, its suppliers, and its community in an effort to build trust with its constituents and earn the respect of the public. Company growth and shareholder satisfaction are significantly impacted by CSR initiatives. The company's long-term investments include CSR disclosures that are easy to understand, which helps it raise funds while cutting costs and improving efficiency (Li et al., 2017). As stated by Farooq et al. (2017) and Saeidi et al. (2020), businesses will only succeed if they take corporate social responsibility seriously and use it to their benefit. When it comes to environmental business, companies that practise CSR have a better chance of gaining the support of governments that are eager to promote and secure long-term stability for corporate investments (Wongthongchai and Saenchaiyathon 2019; Abbas 2020; Tarigan et al. 2020). CSR programmes, as argued by Anser et al. (2018), are geared towards boosting national economies by increasing the prevalence of strategy implementation and dynamism in the industrial sector. Community participation in CSR practises not only increases sustainable environmental consciousness but also aids in cutting down on emissions (Santoso et al., 2022; Gordon et al., 2012).

### **2.2.1 Benefits of Corporate Social Responsibility (CSR)**

Most businesses promote their CSR initiatives because they expect an uptick in profits as a result of the positive publicity they receive. They also demonstrate to shareholders the value contributed by CSR efforts. Adopting CSR strategies is associated with improved bottom lines for many businesses. If stakeholders care about both the company's social responsibility and its bottom line, then socially responsible efforts may be profitable for the business. Stakeholders can contribute to a company's bottom line in a number of ways,



including via increasing productivity or demand. However, unlike what is advised by Callan and Thomas (2009), the employed regression approach does not test for nonlinearity between financial performance and corporate social performance.

Furthermore, CSR efforts offer substantial benefits to companies. CSR helps organisations in three key areas: product assessment, talent acquisition and retention, and brand reputation. research conducted by (Pirsch et al., 2007) Because of the loyalty they show to particular companies, customers are now considered an integral part of the marketing mix (Golob et al., 2008). Beverage companies are utilising corporate social responsibility to protect themselves from the potential of government regulation of their marketing practises. Businesses and organisations in one country may opt to participate in CSR for different reasons than those of a business or organisation in another country. Customer loyalty, public image, brand value, access to capital, risk management, a healthier and safer workforce, motivated people, corporate governance, and the confidence and trust of stakeholders all play a role in the creation and implementation of CSR. These criteria may not be applicable to all firms or organisations because most indigenous businesses are under less pressure to engage in Corporate Social Responsibility from communities, civil society, and even the law enforcement agency (Amaeshi et al., 2006).

The majority of CSR-implemented businesses have seen their stock prices rise as a result. One cannot overstate the significance of CSR in the business world. Corporations have included CSR interventions because marketing and management researchers have been increasingly concerned with the notion of CSR in response to growing interest among customers and other stakeholders in business practises. Stakeholders are not the only ones who benefit from CSR; the implementing organisation is a major beneficiary as well. By implementing a successful strategy for marketing corporate responsibility, the company can continue to reap the benefits of this value creation for years to come. Maintaining and

bolstering company reputations by prioritising the standards and values of all concerned stakeholders is one of the primary ways in which CSR has contributed to the growth of firms' brands. As a means of influencing socially aware consumers and maintaining positive relationships with other stakeholder groups, several marketers have included CSR interventions into their efforts. Companies that do a good job of managing their corporate social responsibility (CSR) often see an increase in market share and customer loyalty as a result. However, if consumers are not made aware of a company's CSR efforts, the company runs the danger of losing a substantial amount of business. If businesses keep getting what they want out of these kinds of community projects, they will be more inclined to make CSR a part of their long-term strategy (Enginkaya et al., 2009). Ineffective and extremely subjective self-regulatory norms in the beverage industry provide companies the freedom to embark on or refrain from CSR efforts (Bergamini et al., 2013; Hastings et al., 2010).

Corporate social responsibility is a tool used by businesses to improve or keep up their public image. Companies can foster a positive relationship with their most important constituents by putting CSR into practice (McWilliams and Siegel, 2001). This includes conducting market research and promoting their products. According to Hillman and Keim (2001), CSR is an important factor in developing and maintaining productive partnerships between businesses and their most important constituencies. Their brand and business would benefit greatly from this kind of connection. Companies use CSR as a competitive advantage to stay ahead of the competition and ensure the company's long-term viability (Cohen & Prusak, 2001).

## **2.3 Dimensions of Corporate Social Responsibility**

According to Perrini et al. (2001), understanding the effect of CSR on performance requires an appreciation of stakeholder theory. Battaglia et al. (2014) took this perspective while discussing the acceptance of CSR efforts, classifying them into four broad groups. There are four types of corporate social responsibility (CSR) initiatives: those that deal with the company's impact on the environment (Bekmezci, 2015), those that deal with the company's impact on the workplace (Caligiuri et al., 2013), those that deal with the company's impact on the community and the market (Olanrewaju, 2012), and those that deal with the market. "The extent to which an organization's actions have a material impact on society at large, on the economy, or on the environment" (Munasinghe et al., 2019) is how corporate social responsibility is described. Large firms can foster community-business collaborations by including three factors (Hernández et al., 2020). The corporation has opted to invest in unique CSR programmes in order to improve business practises, community welfare, interactions with the government, and the action of raising company shares (Hou 2019). The administration of corporate social responsibility projects should correspond with the specified principles (Tjahjadi et al., 2021; Welford, 2007).

### **2.3.1 Social dimension**

The majority of research (Bonsón & Bednárová, 2015; Kim & Lee, 2015; Arsi, Stojanovi, & Mihajlovi, 2017) agrees that community involvement should be a corporation's primary CSR goal. Corporations nowadays are considered as citizens and an integral part of society, according to Leao-Aguiar, Ferreira, and Marinho (2005). Example: CSR that prioritises long-term sustainability in order to safeguard the business's bottom line. Corporate social responsibility (CSR) is the obligation of a business to act in a way that helps society as a whole, the community in which it operates, its employees, and its

customers and suppliers. According to the research (Uddin, Hassan, and Tarique, 2008). Everything from working conditions to employee health and safety to neighbourhood issues to public discussion and social justice is within the purview of corporate social responsibility initiatives. Jamali, Mezher, and Bitar (2006) is the cited source. Robert (1998) claims that because consumers seek low prices and the third world is infamous for the incidence of child and slave work, a free market economy would leave firms with little alternative but to exploit third world labourers. When market forces are combined with a lawful system, working conditions in the developing countries can improve (Eric, 2004). Although corporate social responsibility had been around since the 1990s, it did not become widely recognised as a significant component in improving workers' rights and conditions until the 2000s (Compa, 2008).

### **2.3.2 Environmental dimension**

The environmental aspect of corporate social responsibility (CSR) has been one of the most important challenges facing businesses since the concept of CSR first emerged as a topic of conversation in the 1970s. More and more people are demanding that corporations pay reparations for environmental damage that their activities have caused (Azzone, Bianchi, & Noci, 1997). The health of ecological systems should not be jeopardised by business activities because all biological systems have limited resources and capacity (Matten, 2006). According to Dahlsrud (2008), the term "environmental dimension" refers to the external natural environment. DesJardins (1998) claims that CSR efforts should prioritise ecological considerations. Arsi, Stojanovi, and Mihajlovi (2017) point out, however, that it is not enough for businesses to merely follow the letter of the law when it comes to environmental preservation. Business activities, such as pollution and depletion of natural resources, are a major contributor to environmental damage, as stated by Uddin,



Hassan, and Tarique (2008). The positive relationship between environmental CSR activities and their economic consequence is a popular topic of study, as some scholars have argued that engaging in such activities does not result in better business outcomes in terms of management. There is no denying the usefulness of a method to business operations. The first tenet of sustainability states that environmental factors must be linked to an effective system of resource management in order for those resources to be exploited at all (Matten, 2006). According to several sources (Azzone, Bianchi, & Noci, 1997; Perrini, Pogutz, & Tencati, 2006), environmental reports are used by businesses as a tool for improving and managing operations and communicating with stakeholders, particularly those who have environmental concerns)

### **2.3.3 Economical dimension**

Corporate social responsibility is defined by the economic dimension, which places an emphasis on monetary and financial considerations. Examples of this can be seen in the phrases "business management," "economic development," and "preserving corporate profits" (Kim, 2015). Carroll (1979) emphasises the monetary aspect of CSR by saying: Companies have a societal expectation that their employees can make a profit from the sale of the goods and services they create. According to Carroll (1991), the economic factor must be carried out profitably, with a focus on increasing earnings per share while keeping costs low and preserving the company's competitive advantage. According to Wheeler and Beatley (2014), businesses should look for a long-term strategy that would ensure economic viability for all workers, including those in their local communities.

Matten (2006) proposes a broad and a limited understanding of the economic dimension. Management's job, according to this limited definition of sustainability, is to create and market goods that will result in a positive financial outcome for the company over time.



The perspective of corporations on their own business practises and their effect on the economy as a whole is an integral part of the broader concept of the economically sustainable dimension. As reported by (Matten, 2006).

According to Uddin, Hassan, and Tarique (2008), the financial success of corporations has an impact on everyone involved. By way of illustration, when businesses succeed, their employees get greater wages, which in turn increases consumer spending and tax revenue for governments and local economies. That is why this phenomenon is known as a multiplier effect (Uddin, Hassan, & Tarique, 2008).

#### **2.4 Green innovation**

Green innovation has been the focus of theoretical and conceptual studies in recent years (Hermundsdottir and Aspelund, 2021). There are many synonyms for "green innovation" that include "eco/ ecological innovation," "environmental innovation," and "sustainable innovation" (Küçükolu et al., 2015; Tietze et al., 2011). This revised method of innovating encompasses societal shifts as well as technological and institutional developments (Rennings, 2000). One concept of "green innovation" is reducing the possibility of inefficient use of resources like electricity (Basana et al. 2022). "Hardware or software innovation that is related to green products or processes," as defined by Chen et al. (2006). This includes innovations in energy-saving, pollution-preventing, waste-recycling, green product design, and corporate environmental management. Green innovation includes, but is not limited to, energy-saving innovations, pollution-avoiding innovations, waste-recycling innovations, product-development innovations, and environmental-management partnerships (Tang et al., 2017). The company's green innovation allows for the creation of products and services with negligible to zero environmental impact (Wong et al., 2012). In addition to improving their competitive standing, businesses that implement green

innovations also benefit from them. Improving environmental efficiency involves a number of interconnected processes, including lowering the price of chemical waste disposal, helping firms comply with government requirements, evoking positive responses from stakeholders, and so on (Chiou et al., 2011). According to Sáez-Martnez et al. (2016), eco-innovation provides a reasonable platform for green innovation in response to rapid climate change, and enterprises have a responsibility to the environment and society. Eco-innovation has become increasingly popular among corporations in recent years (Leito et al., 2019; Barba-Sánchez and Atienza-Sahuquillo, 2016; Sáez-Martnez et al., 2016) as a means to improve both their environmental and financial footprints.

The company's dedication to green innovation is seen in its efforts to address stakeholder concerns about its environmental impact and in its efforts to promote environmental sustainability through the introduction of new products. To further strengthen their market position, firms are investing substantially in exports and giving top priority to the development of green innovation practises (Galbreath, 2017). Green innovation aids businesses in entering the competitive business climate by adopting efficient policies and establishing relevance among stakeholders (Novitasari and Agustia, 2021; Tang et al., 2017). Cost-benefit optimisation is the company's top priority because it allows for the greatest potential for profit and the fastest path to industry dominance. As sustainable management (aszkievicz 2019; Santoso et al.) emphasises accountability and green innovation for the sake of sustainable development, this seems to go against those values. The company's eco-innovation may involve a technological strategy for implementing environmentally friendly policies. Leito et al. (2019) and Barba-Sánchez and Atienza-Sahuquillo (2016) both describe eco-innovation as "a technique, system, and implementation used to avoid and reduce environmental damage." The joint creation of cutting-edge technologies and in-depth knowledge of the industry allows action to be done

in addressing operational competency in assessing the company's internal needs, such as the acquisition of new resources (Calza et al., 2017). Before adopting a mindset that does not consider cultural diversity, businesses should define niche markets, sustainability strategies, internal organisational links with green innovation, ownership rights over plan implementation, and performance measurements (Tariq et al., 2017). To solve complex challenges, green innovation is frequently used (Yin et al., 2018; Basana et al., 2022).

Depending on the circumstances, reactive or proactive management of green innovation is necessary (Bigliardi, 2012). To make systemic changes that are typically more efficient (Noci & Verganti, 1999; Bigliardi, 2012), proactive innovations must go beyond environmental laws and standards. The incremental improvements brought about by regulation-driven, responsive innovations are labor-intensive and wasteful. Green technology has many positive outcomes. The environmental effect of a product, process, service, or system can be reduced during the course of its entire life cycle (Lin et al., 2019). Having an advantage in the market has several benefits, one of which is raising the bar for new competitors to cross (Chang, 2011; Lin et al., 2019). Although there are obvious positive outcomes for business and society when companies adopt green innovation, doing so can be challenging. This is because, as Rennings (2000) pointed out, the "double externality problem" prevents enterprises from being adequately motivated to take part in green innovation. To encourage business investment in green innovation (Rennings, 2000; Popp et al., 2010), policymakers must address these flaws in the market. This is because the discovery and spread of green innovations bring about unintended consequences for the environment and technology. Technical innovation strategies and environmental legislation that properly charge for environmental externality costs are necessary if green innovation goods are to compete fairly with non-green products (Rennings, 2000).



Green innovation can refer to either a physical or digital invention, in hardware or software, that helps conserve energy, reduce pollution, recycle trash, create more environmentally friendly products, package those products in environmentally friendly ways, and better manage a company's impact on the environment. According to the aforementioned, "green" innovations are distinct from "traditional" ones due to the requirement to either comply with environmental standards or satisfy the ecological concerns of the market. Traditional innovations provide value when they lead to greater production, efficiency, or performance. When it comes to environmental problems, however, the market, industry, firm, and/or customers all, stand to gain from green innovation (Albort-Morant et al., 2017; Charmondusit et al., 2016).

Companies are more likely to invest in green technologies if they believe that doing so would help them gain access to previously inaccessible markets (Chen et al., 2006; Kam-Sing Wong, 2012). When done right, green technologies can help firms save money and gain credibility with both customers and environmentalists (Chen, 2008). Businesses that are at the cutting edge of innovation are more likely to expand into new areas, gain a positive public perception, and earn higher prices for their eco-friendly products and services. According to Boehe and Barin-Cruz (2010), putting an emphasis on environmental impact improves market performance and business turnover by differentiating products and expanding into international markets with an active green customer base. Green innovation's competitiveness variable appears here, according to the literature (Sellitto et al., 2020). In order for a business to stay ahead of the competition, it needs to innovate in ways that pay off for the company. This could be in the form of higher profits or stakeholder value, larger market shares or improved corporate image or environmental performance (among other things) (Chen et al., 2012; Bornschlegl et al., 2016; Tu and Wu, 2020)

## **2.5 Types of Green innovation**

Green process innovation, green product innovation, and green organisational innovation are the three pillars of the green innovation paradigm proposed by Morgan et al. (2009) and Machiba (2009).

### **2.5.1 Green product innovation**

According to Bhardwaj (2016) and Kam-Sing Wong (2012), the term "green product innovation" describes the implementation of fresh ideas in the creation, manufacture, and strategic dissemination of products that dramatically surpass the status quo in terms of novelty and ecological design. "A product whose design and attributes uses recycling (renewable) resources, which improves environmental impact or reduces environmental toxic damage throughout its entire life cycle" is an example of a green product innovation, as stated by Durif et al. (2010). Noci and Verganti (1999) remark that when designing environmentally friendly products, it is important to think about the product's whole life cycle. These three main goals of green product innovation are reflective of the "different stages of a product's physical life cycle-manufacturing process, product use, and disposal" (Dangelico and Pujari, 2010). In order for organisations to succeed in today's fast-paced marketplaces and competitive environments, green innovation is essential (Ar, 2012). The term "green product innovation" is used to describe the practise of incorporating environmentally friendly developments into the production cycle in order to create novel goods. Most green product innovations today make use of state-of-the-art environmental technologies in order to shorten the product's life cycle and give the company an edge in the market (Carrillo-Hermosilla et al., 2010). A solar-powered car, a stockpile of reusable jute bags, and other such items all fit into this category. It is a cutting-edge tool that is implemented all through the manufacturing process to lessen its impact on the planet and



people's health (Christensen, 2011). In the words of Chen et al. (2006), "green product innovation" can change how consumers view a company. Ar (2012) claims that the green product innovation has a significant impact on the productivity and competitiveness of Turkish manufacturing enterprises. As a result of green product innovation, Vietnam's motorcycle industry may be able to achieve long-term growth and financial success.

### **2.5.2 Green process innovation**

To be considered "green," a process must be resource- and pollution-efficient, recyclable, and non-toxic (Chen et al., 2006). Some examples of green process mechanisms that have been adopted to reduce the environmental impact of industrial processes include closed loops for solvents, material recycling, and filters (Negny et al., 2012). The reduction of emissions, waste, and pollution throughout the production process is a primary objective of green process innovation, to which end both end-of-pipe technologies and clean technologies contribute. Green manufacturing process innovations have been proved to lower production costs and have a positive impact on the environment (Rennings, 2000).

Green process innovation includes making processes more resource- and energy-efficient and incorporating new clean energy types, such as switching from fossil fuels to bioenergy (Kivimaa & Kautto, 2010). According to Bigliardi and Dormio (2009), process innovation is crucial to successful innovation because it allows organisations to gain market share, improve product quality, and expand their product offers. To stay ahead of the competition in the end, firms need to innovate both their products and their processes (Kotabe & Murray, 1990). Green process innovation (which "requires systematic improvements to the whole operational and managerial process"; Li et al., 2017) helps businesses reduce their environmental impact both now and in the future by laying the groundwork for the introduction of existing green product innovations and the promotion of new ones.

However, studies reveal that green process innovation receives less attention than green product innovation in many companies (Li et al., 2017). Improved internal efficiency and product quality, two benefits of process innovation, may not be immediately obvious to customers. The adoption cost and time to value of green process innovation are much higher than for conventional innovations (Li et al., 2017). The benefits of green product innovation, however, are significantly enhanced by green process innovation (Xie et al., 2019). Unlike green product innovation, which is often driven by external factors like regulation and market forces, green process innovation comes from within an organisation in an effort to improve internal efficiency. It is more difficult for competitors to imitate since it is not explicitly stated (Ireland & Webb, 2007; Chen, 2010).

### **2.5.3 Green organizational innovation**

According to the literature (Negny et al., 2012; Chen et al., 2006), "green organisational innovation" refers to the mechanisms that put an organisation in a position to implement or absorb green innovation projects. Murphy (2000) and Gould (2000) argue that platforms for green organisational innovation are necessary for the successful rollout of green process and product innovation. New methods of management are utilised to make standard corporate operations more efficient (Birkinshaw et al., 2008). In order to foster an eco-efficient workplace, it aids in the development of a variety of activities including eco-learning, eco-product designs, and eco-process design (Kemp and Arundel, 1998). Improved company performance and increased employee satisfaction are the results of green organisational innovation, which lowers transactional, administrative, and supply costs (Barin Cruz et al., 2006).

## 2.6 Firm performance

Researchers are able to assess organisations, their actions, the environment, and their competitors in relation to firm performance, making it a key topic in strategic management research (Masa'deh et al., 2016). Researchers have a hard time defining, conceptualising, and measuring business performance, according to the literature (Taghian et al., 2015). When looking at performance from a process perspective, what matters is how well inputs are converted into outputs that lead to desired results. According to the economic literature (Masa'deh et al., 2016), the relationship between effective costs, realised production, and attained outcomes constitutes performance. According to Verboncu and Zalman (2005), performance is defined as a certain outcome obtained in management, economics, and marketing that allows an organisation to be competitive, efficient, and effective. In addition, Luxmi (2014) argues that a company's performance can be gauged by comparing actual outcomes to projected outcomes. "translates strategy into desired behaviours and results, interacts with these expectations, monitors progress, provides feedback, and encourages employees through performance-based rewards and sanctions," write Chow and Van Der Stede (2006) about the value of assessing firm performance. This is because, as Mishra and Suar (2010) point out, conventional ways of evaluating a company's success place too much emphasis on the value of its tangible assets in the past and too little on its potential to create future value. In addition, it often misinterprets the performance of intangible assets such as brand value, customer satisfaction, employee retention, and new product development (Hernaes et al., 2012; Parastoo Saeidi et al., 2015). Furthermore, people are unable to see variations in business success because they communicate contradictory messages about the significance of innovation and continuous improvement (Tseng and Lee, 2014).

In addition, there is a policy that takes into account nine different business performances (profitability, expansion, market value growth, customer satisfaction, employee loyalty, environmental audit accuracy, firm operations, and social activities) (Tarigan et al., 2021). (Abeysekara et al., 2019) Businesses thrive when knowledge and technological expertise are combined. Foreign ownership and corporate governance, for example, continue to be reliable indicators of a company's success even if political climates change (Mardnly et al., 2018). A company's success can be measured, according to Lepak et al. (2007), Wongthongchai and Saenchaiyathon (2019), and Nguyen et al. (2020), in large part by its capacity to produce and capture value. As a result of the company's efforts, financial investment obstacles are reduced, new opportunities are developed, and operational efficiencies are increased (Al-Matari et al., 2014). Finally, but most importantly, management that implements environmental logistics renewal in business practise needs to be able to finish long-term strategies, with indirect benefits visible at the start of the economy after its implementation (Agyabeng-mensah et al. 2020; Zhu et al. 2005; Tarigan et al. 2020). The examination considered not just financial but also environmental viability.

## **2.7 Theoretical Review**

This study was based on stakeholder theory. Freeman (1984) to assist firms in adjusting to their dynamic operating environments first introduced the term “stakeholder”. Edward Freeman (1984) defines stakeholders as "any group or individual affected by or able to affect the achievement of an organization's objectives." Stakeholder theory holds that an organisation must put the needs of its many constituents, or "stakeholders," first. These include not only its employees and customers, but also the environment and the local community. An important consideration is "who can impact or be affected by," which includes many different types of people and the various ways in which their activities have



an effect on businesses or may have an effect on those people. The theory examines and defines the functions, organisational structures, and responsibilities of businesses. Numerous authors, including Clarkson (1995), Russo (2010), Perrini (2010), Arenas (2009), Lozano and Albareda (2009), and Mohamed et al. (2013) have studied stakeholders. According to this idea, "secondary stakeholders" include non-market actors including "community activists, advocacy groups, civil society organisations, and social movements" (Russo and Perrini, 2010). Concerns have been raised about including such people as stakeholders (Clarkson, 1995; Arenas et al., 2009; Russo and Perrini, 2010) because they have no formal authority over the businesses in question. "The success of an organisation depends on the extent to which it is capable of managing its relationship with key groups," as stated by Van Beurden and Gössling (2008), is the central principle of the stakeholder theory. Shareholders should be considered stakeholders despite the fact that some academics view stakeholder theory as threatening to the free market. That is why those phrases are not flaws, as Freeman et al. (2004) point out.

This study relies heavily on stakeholder theory, a central tenet of CSR analysis. Wood (1991) argues that by using a stakeholder perspective, academics might learn more about how society confers and revokes legitimacy on corporations. The evolution of CSR may be helped along by a stakeholder approach that details and includes economic and societal concerns (Freeman, 2010). The success of a firm depends on the ability of its leadership to guarantee that all of its key stakeholders are provided for and satisfied (Clarkson, 1995). If influential people stop caring about an organisation, that has a negative effect on its practises (Clarkson 1995). If the company's stakeholders are not happy with the implementation, it will not be able to satisfy its structural foundation and consumer supports. When customers stop buying products or sue a company, when investors sell their shares, when employees quit or do not put in their full effort, when environmental

advocates file suit, and when governments reduce subsidies or impose unfavourable regulations, all of these can have a negative impact on a company's performance (Wood 1991). Barney and Hansen (1994) found that organisations that go above and above to satisfy their most valuable stakeholders enjoy a competitive advantage. In order to increase performance and reduce costs imposed by stakeholders, effective stakeholder management is a positive factor (Mishra and Suar, 2010). Stakeholder theory appears to be the most well-liked form of CSR.

According to Dzever and Gupta (2012) and Jenkins and Obara (2006), this theory can be utilised to better identify CSR-related company actions, making it useful to our study. Since the firm's operations have an impact on employees, consumers, the community, and the environment, these groups are considered key stakeholders in this model. Stakeholder theory, widely regarded as management theory's bedrock (Harrison & Freeman), has emerged as one of the most influential CSR theories of the last few decades. 1999).

## **2.8 Hypothesis development**

### **2.8.1 Corporate Social Responsibility and Firm performance**

The vast majority of studies have discovered a favourable connection between CSR and business success, while the details of this connection are still up for debate. Consumers will place a higher value on a company's offerings if they believe the company has a genuine interest in the well-being of the neighbourhoods in which it does business, as proposed by the Community Care Hypothesis (Maignan & Ferrell, 2001). Having these qualities in a product increases customer happiness, brand loyalty, and word of mouth (Sen et al., 2006). Since CSR is a consideration for consumers when making purchases, we can infer that associations with positive CSR are advantageous for both the firm and the product, while those with negative CSR are counterproductive. According to Hill and

Langan (2014), a company's reputation can suffer if it does not repair the harm it has caused to the environment. However, businesses who forge ahead with stricter environmental regulations will gain an advantage over their rivals (Barrett, 1992). When environmental management systems are implemented, costs connected with the environmental crisis, raw material waste, and inefficient industrial processes are mitigated. The stock values of companies that implement environmentally friendly practises and actively seek out environmental funding increase (Klassen and McLaughlin, 1996). Increases in customer satisfaction and loyalty (Du et al. 2007, Chung et al. 2015), productivity, company reputation (Rangan et al. 2015), customer willingness to pay premium prices, and reputational risks during times of crisis (Boccia et al. 2019) can be attained through a company's participation in corporate social responsibility (CSR) activities. Corporate social responsibility (CSR) can help businesses stand out from competitors by establishing a positive image of the company as a caring, environmentally conscientious supplier. These CSR efforts lead to reduced expenses and higher profitability (Boccia et al., 2019).

Since employees typically lack detailed information about employment characteristics like working conditions and quality of relationships within the firm, they look for signals that allow them to make educated guesses about what it might be like to work for such a company (Greening and Turban, 2000). CSR activities can provide insight into a company's working environment and culture (Greening and Turban, 2000; Backhaus et al., 2002), which can be useful for recruiting purposes. Companies with CSR activities imply, provide a sense of security and safety, etc., because workers believe that moral enterprises are less likely to take advantage of them (Wojciszke and Abele, 2008). A boycott of a company's products or services can have a negative impact on the company's image and bottom line (Berman et al., 1999). Having reliable identifiers allows for a more precise assessment of



a business's products, increased customer loyalty, positive word of mouth, and brand protection from unfavourable information (Sen et al. 2006, Mishra and Suar 2010). Positive discretionary activities, such as philanthropy and other endeavours, are often overshadowed by their bad counterparts and have less of an impact on public opinion than the latter do (Lange and Washburn, 2012). If the company's reputation suffers, it could see a decline in sales, an increase in its cost of financing, a loss of market share, the departure of key network partners, and other costs related to repairing its image (Sen and Bhattacharya 2001; Lange and Washburn 2012). A company's bottom line may suffer because of all of these issues.

According to the research, CSR activities increase customers' perceptions of a business's efficiency. If customers are happy with the company's products and services, management and stakeholders will be able to mitigate the negative effects of CSR (Wei et al., 2020). Reliable managers need to know how to steer the returns on CSR investments in certain sectors towards performance (Feng et al., 2017), despite the fact that CSR has no effect on company performance across all industries. Intangible yet important to a company include things like reputation and image (Galbreath and Shum 2012), member satisfaction (Tziner et al. 2011), and brand image (Heal 2005). In addition, FP measures are 'lead indicators' since they evaluate performance based on outcomes rather than inputs (D. Ittner & Larcker, 1998). Therefore, they shed light on relationships that FP measurements don't reflect, such as how a firm interacts with its neighbourhood and environment, how it generates and distributes new products, how it respects and values its workers, and so forth. They aid in fortifying the links between an organization's strategies and its reputation, both of which are essential to a company's success (Agarwal et al., 2012; Milost, 2013). The study therefore suggest that:



## **H1: Corporate social responsibility has a significant and positive effect on firm performance**

### **2.8.2 Corporate Social Responsibility and green innovation**

Effects on corporate social responsibility and green innovation lead to a more eco-innovative environmental strategy that benefit the environment in the long run (Shahzad et al. 2020; Saeidi et al. 2021). When a firm and its stakeholders collaborate to update its applied technology in a way that helps both the community and the company's long-term sustainability and strategic goals, we have achieved a state of "green innovation," which is at the intersection of corporate social responsibility and innovation. Green innovation and corporate social responsibility (CSR) have mutually beneficial feedback loops that strengthen one another (Wahyud 2017; Shahzad et al. 2020a). Increased market attractiveness is one result of CSR, which in turn affects the performance of green innovation (Rehfeld et al., 2007). By stressing the significance of environmental protection, the government hopes to inspire corporate social responsibility. Companies can lessen their negative effects on the environment by developing eco-innovations. When companies use eco-innovation, they reduce their resource consumption and their environmental impact (Leito et al., 2019; Barba-Sánchez and Atienza-Sahuquillo, 2016). According to research by Sáez-Martnez et al. (2016), 3,647 SMEs from 38 countries had a beneficial effect on eco-innovation, resource efficiency, and a green market.

Successfully linking CSR performance with green innovation was associated with a competitive advantage, as shown by Broadstock et al. (2019). The dissemination and use of CSR and green innovation data is yet another option for companies (Gras-gil et al., 2016). It has been established that CSR is good for a company in many ways, including its financial line, public image, staff morale, client retention, and employee growth (Gürlek

and Tuna 2017; Mazodier et al., 2021). According to research by Sáez-Martnez et al. (2016), an organization's commitment to environmental responsibility improves its eco-innovation, pollution reduction, and competitiveness. Eco-innovation, for example (Leito et al., 2019; Barba-Sánchez and Atienza-Sahuquillo, 2016; Sáez-Martnez et al., 2016) has been shown to boost business outcomes, as have other types of green innovation. The study therefore suggest that:

**H2: Corporate social responsibility has a significant and positive relationship with green innovation**

### **2.8.3 Green innovation and firm performance**

The core to management's policy is the conviction that eco-friendly innovation improves firm performance (Novitasari and Agustia 2021; Siagian et al. 2021). However, the competitive business world must contribute to the creation and maintenance of effective stakeholder control. Given this, it is evident that a policy's accuracy is vital to its ability to pave the way for MNCs (Antonioli et al., 2013; Xue et al., 2019). Furthermore, green innovation improves firm performance and ecological sustainability (Tariq et al., 2017; Xie et al., 2019). Environmental proactivity, as defined by Barba-Sánchez and Atienza-Sahuquillo (2016), is defined as a strategy to adopting eco-innovation that prioritises green innovation as a means of mitigating and minimising harmful effects on the environment. The results of this study show that 312 wineries in Spain that take environmental action see positive commercial and environmental returns. In addition, Leito et al. (2019) pointed out that the technology used, market characteristics, government policies, cooperation partnerships, and lean management may have a significant impact on eco-innovation in 334 Portuguese firms, all of which would improve the competitive dynamic of the Portuguese economy. Further, Sáez-Martnez et al. (2016) discovered, across a sample of

3647 SMEs operating in 38 countries, that enhanced corporate environmental performance was substantially related with enhanced firm performance across environmental and economic measures.

This approach also facilitates the monitoring of market and financial data associated with social performance in the workplace by interested parties (Jin et al., 2017; Baah and Jin, 2019). The more resources a business has, the more it can invest in green innovation to create more cost-effective models for modifying its goods, operations, and procedures (Khan and Johl 2019; Tarigan et al. 2021). Adopting green innovation and management practises has been shown to be beneficial to a company's long-term viability (Albort-morant et al., 2016; Awan et al., 2018), especially when it comes to selling the benefits of green innovation to other companies, as this indicates faith in commanding a premium for superior performance (Ho et al., 2016). The study therefore suggest that:

**H3: Green innovation has a significant and positive effect on firm performance**

#### **2.8.4 CSR, Green innovation and Firm performance**

Several elements, such as CSR and firm performance, might enhance the long-term viability of CSR practises through boosting trust among stakeholders. Trust from customers helped counteract the negative effects of CSR (Wei et al., 2020), which in turn improved firm performance. CSR has a positive impact on firm performance (Canh et al., 2019). The government supports CSR initiatives to get firms to pay attention to environmental concerns. The guidelines in place will determine how quickly businesses can create and spread eco-innovation with the goal of reducing emissions. As stated by Leिताo et al. (2019), Portugal's governmental policies have had a significant impact on eco-innovation in the country's 334 firms by mandating incentives like as tax exemptions and government subsidies for businesses that minimise emissions. Therefore, CSR benefits

companies (Flammer 2015; Nguyen et al. In addition to these benefits, CSR makes more efficient use of resources and improves the company's standing with its stakeholders, clients, and suppliers (Orlitzky et al., 2003).

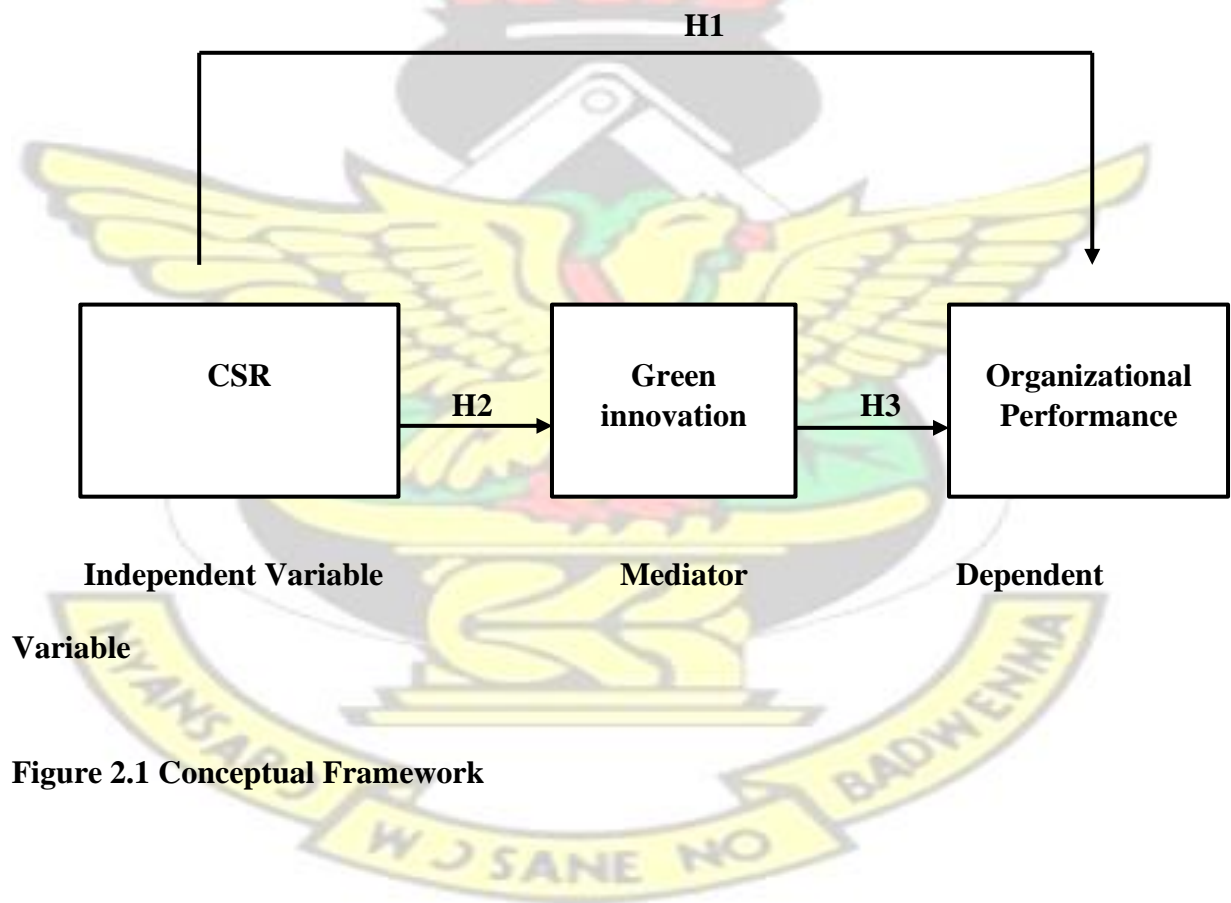
Management strategies are promoting pledges to contribute in an endeavour to acquire domination of multinational firms in Indonesia, and this is despite the fact that there is a favourable association between green innovation and corporate success (Somjai et al., 2020). Several studies (Yang et al. 2019; Sapta et al. 2021) have found that the environmental aspects of corporate social responsibility have the greatest influence on altering consumers, distribution, and human resources, as well as making profits as market expansion access and sustainable performance in constructing a company's brand in society. Stakeholders' willingness to invest strategically and achieve a competitive edge for the company increases its long-term success prospects (Weber, 2017). However, there is currently no granular definition of the functional motion to feature ratio (Wang et al., 2016). For a company to make judgements regarding its actions that are in line with social implications and needs, corporate social responsibility is crucial (Anser et al., 2018). When a company is successful and financially stable, it may invest more in green innovation, which has been shown to increase product sales (Oliveira et al., 2019; Basana et al., 2022). Sáez-Martnez, M., E. Martinez, 2016). Corporate social responsibility is the duty of a business to conserve natural resources such as water, power, and land. By using CSR, firms can foster eco-innovation, which in turn increases resource productivity, tech intensity, and the growth of a green market (Leitao et al., 2019).

CSR has been linked to sustained corporate performance in numerous studies. Therefore, the incorporation of green innovation as a moderating element would affect operational efficiency in regards to environmental management technology and determinants of the company's sustainability (Hansen and Schaltegger, 2016). Green innovation includes



things like integrating environmental safeguards into CSR efforts and enhancing business effectiveness in light of resource scarcity (Su et al., 2020). However, if a business invests in an innovation with the wrong intentions (say, to placate shareholders), the investment could prove futile (Arfi et al., 2018). The competitiveness of a company in the market rises when its environmental effect decreases because of regulation (Zhang et al., 2019), leading to higher profits and better business results. The study therefore suggest that:

**H4: Green innovation mediates has a significant and positive effect on firm performan**



**Figure 2.1 Conceptual Framework**

## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.1 Introduction**

The research methodology is the path that a researcher must take in order to do their research. This chapter talked about research design, population, sampling procedure, data gathering methods, and data analysis methods.

#### **3.2 Research design**

A research design is a detailed blueprint for a study that sets up an overarching structure or foundation for data collection (Leedy, 1997). According to Polit et al. (2003), a research design is the comprehensive strategy for answering the research questions and addressing the challenges that are inevitable in each investigation. There are three main types of studies in the realm of academia: descriptive, exploratory, and explanatory (Saunders et al., 2009). Descriptive research involves a straightforward investigation, analysis, and description of a particular event, with the purpose of delivering the most intuitive presentation possible (Streubert & Carpenter, 1999). Saunders and Miller (2003) state that descriptive studies provide a true picture of the people, places, and things being studied. This layout gives the researcher a snapshot of the phenomenon of interest from the perspectives of individuals, businesses, and entire industries. If you want to learn something new, get inspired, or generate fresh ideas, then exploratory inquiry is the way to go (Burns and Groove, 2001). Researchers do exploratory studies when new information and a deeper understanding of the problem are needed (Saunders et al., 2009).

The objective of explanatory research is to provide explanations for observed phenomena, and theories are developed for this purpose (Creswell, 2003). It explains the underlying causes of the phenomenon that were just seen in the descriptive investigation (Saunders et

al., 2007). An explanatory study is one that attempts to shed light on the causal links between variables (Yin, 1994). Therefore, the study used explanatory research to shed light on the dynamics of the interplay between its components. This was because establishing a causal relationship between variables and understanding the phenomenon required engaging in explanatory study. An explanatory study is one in which the researcher makes use of theories or hypotheses to account for the factors that led to the occurrence of a phenomenon (Saunders et al., 2007).

### **3.3 Research Strategy**

Research may be grouped into qualitative or quantitative method. Qualitative research allows researcher to appropriately collect essential subjective description of a phenomenon or situation from the perspective of participants (Carter et al., 2014). According to Creswell (1994), Qualitative Research encompasses an investigation to understand a phenomenon of interest, usually described with words, pictures and data is extracted from participants in a natural setting and therefore capture data that are non-numerical in nature. The findings are typically communicated in written or verbal form by the researchers. Predictions can be made using numerical data that have been measured to describe a phenomenon, as stated by Sauders et al., (2007), in the quantitative research approach. Quantitative research involves gathering large amounts of numerical data to help researchers analyse, predict, or manage the phenomena of interest, as described by Creswell (1994). Mathematically oriented analysis of numerical data is used to provide an explanation and description of the phenomenon. According to Cohen and Manion (1980), the term "quantitative research" refers to a type of social science investigation that relies on statistical methodologies and quantitatively represented claims. Therefore, this research used a quantitative approach to gathering and analysing its data. The goal of this study was

to use graphs and tables to illustrate the connections between the many factors that were analysed.

### **3.4 The Population of the Study**

The term "population" is used to describe the total number of occurrences that make up a phenomena. Gavrilover and Gavrilova (2011) note that "population" can also refer to the total number of persons in a certain group. According to Polit and Beck (2004), a population consists of all the individuals who fit a certain description. Alternatively, a population can be thought of as a group of people or things that share some commonalities. Select Kumasi manufacturing companies make up the study's population.

### **3.5 Sample size and Sampling Technique**

According to Saunders et al. (2007), a sample is defined as "a subset of the population from which it is drawn that is of sufficient size to warrant statistical analysis." According to Brink (1996; Polit & Hungler, 1999), a research sample is "a subset of a population selected to participate in the study." In the context of surveys, Kumar (2008) suggests that a sample is a subset of the population that is drawn at random for analysis. The study had 200 participants as the sample size. This was chosen using the sampling determination table developed by Morgan and Krejcie (1970).

The researcher used a purposive selection strategy to choose the sample population for this investigation. Purposive samples are those whose parameters are set with reference to a predetermined goal of the research (Andrade, 2021). Purposive sampling, as defined by Strydom and Delport (2011), is a systematic search for respondents who fit a predetermined set of criteria that are crucial to the research. The sampling strategy relies on the researcher's best guesses about which participants will yield the most useful data



for achieving the study's stated goals. Individuals who share the researcher's viewpoint are more likely to possess the necessary information and be open to give it (Etikan and Bala, 2017). Since the research is looking for the key decision-makers at the company's helm, a purposive sample strategy was chosen. Each business has to choose just one respondent.

### **3.6 Data Sources**

Primary sources were employed for data collection in this investigation. Interviews, experiments, surveys, questionnaires, focus groups, and measurements are all examples of primary data that are gained through first-hand investigation (Sakaran, 2003). Sugiyono (2012) defines a primary source as a source that gives information directly to the researcher. Interviews, experiments, surveys, questionnaires, focus groups, and measurements are all examples of primary data that are gained through first-hand examination. Primary data were used in the analysis. Questionnaires were the primary method of data collection. In order to gather the primary data, a structured questionnaire was used to interview participants in the field.

### **3.7 Methods of Data Collection**

Questionnaires were the primary method of data collection in this study. A questionnaire is a set of questions designed to elicit meaningful data from respondents. In order to collect data on a certain issue, researchers often use questionnaires (Hair et al., 2007). Primary data was collected using a data collection instrument in the form of restricted and unrestricted questionnaires. The survey instrument was derived from previously published materials. The questionnaire has three distinct parts. The first part of the report dealt with demographic information on the study's participants; the latter parts included CSR, green innovation, and company performance. Each construct was measured using items culled

from the relevant literature. Corporate social responsibility indicators were borrowed from Yu et al. (2021). Items used to gauge eco-friendly innovation were borrowed from Yu et al. Lindgreen et al. (2009) served as the basis for the elements used to evaluate company performance. In addition, a seven-point Likert scale was used, with 1 representing strongly disagree and 7 representing strongly agree.

**Table 3.1 Measurement items**

Construct (Acronym)	Number of Items	Source
Corporate social responsibility	11	Yu et al., (2021)
Green innovation	8	Yu et al., (2021)
Firm Performance	10	Lindgreen et al. (2009)

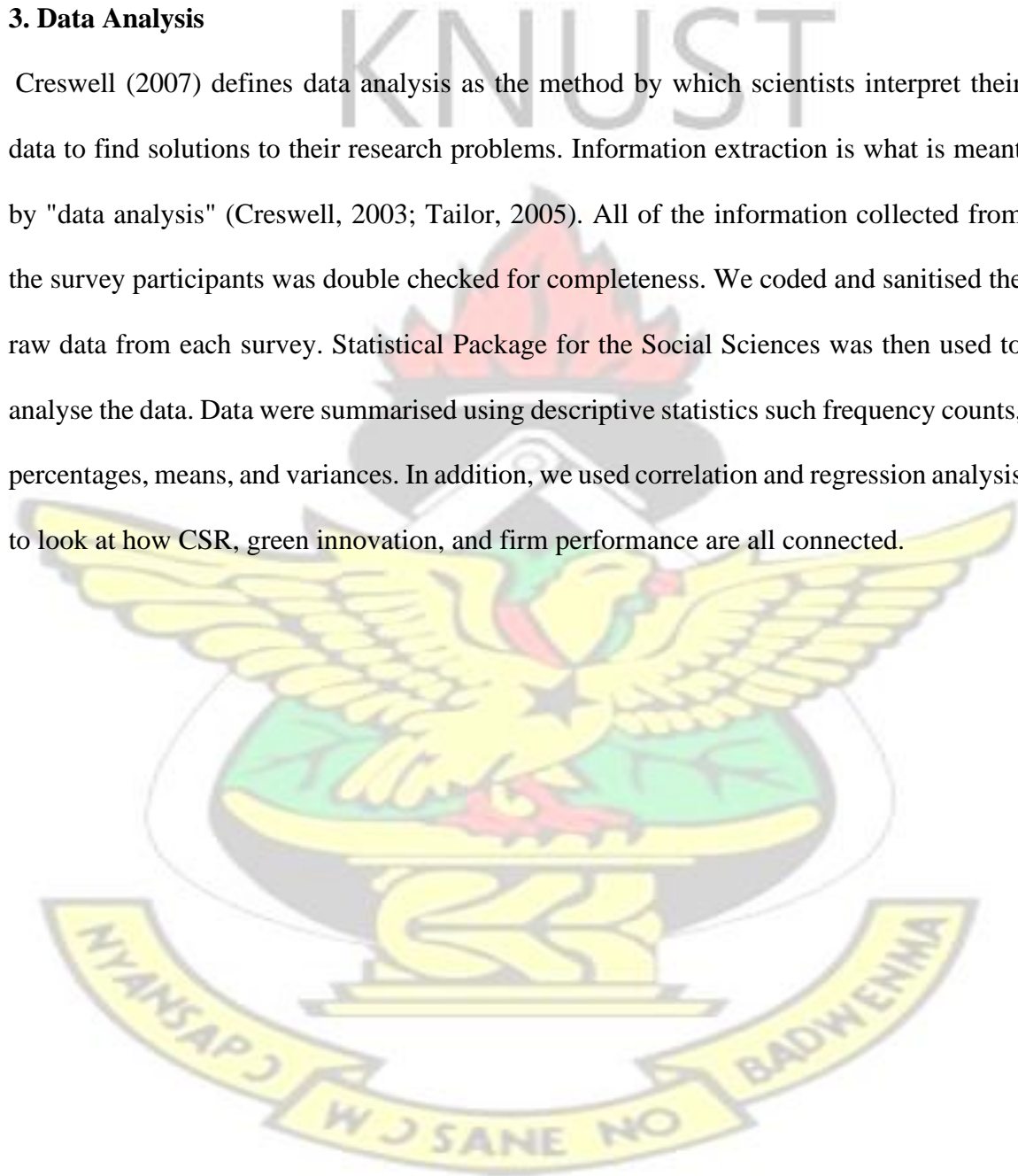
### 3.8 Reliability and validity of the study

Reliability, as defined by Bisschoff and Koebe (2005), is "whether the findings of the research would be consistent if the study were repeated with the same participants in a similar context." Reliability, as defined by (Saunders et al., 2009), denotes the extent to which study results are consistent with the technique employed to obtain and analyse the data. Therefore, the dependability of data gathering tools is closely tied to their ability to deliver correct results. Polit and Beck (2004) found that an instrument could be considered trustworthy if and only if its findings are consistent with the true values of the attribute under investigation. Cronbach's Alpha is widely used as an indicator of a study's reliability within itself. Therefore, Cronbach's Alpha was used to assess the consistency of the research constructs. An instrument's validity refers to how confident one can be in the data it produces. A measuring instrument can have either internal or external validity, depending on the circumstances of its application (Burns & Grove, 2001). According to MacMillan and Schumacher (2001), validity is established when there is congruence between the researcher's interpretations and those of the participants. The capacity to

reliably measure is a crucial feature of any gauge. The "ability to measure what it is intended to measure" (Robson, 2011) is a simple definition of metric validity. Confirmatory Factor Analysis was also used to test the reliability of the research concept.

### **3. Data Analysis**

Creswell (2007) defines data analysis as the method by which scientists interpret their data to find solutions to their research problems. Information extraction is what is meant by "data analysis" (Creswell, 2003; Tailor, 2005). All of the information collected from the survey participants was double checked for completeness. We coded and sanitised the raw data from each survey. Statistical Package for the Social Sciences was then used to analyse the data. Data were summarised using descriptive statistics such frequency counts, percentages, means, and variances. In addition, we used correlation and regression analysis to look at how CSR, green innovation, and firm performance are all connected.



## CHAPTER FOUR

### RESULTS AND DISCUSSIONS

#### 4.1 Introduction

This chapter presents the results and findings of a questionnaire-based investigation into the role of green innovation as a mediator between corporate social responsibility and firm performance.

#### 4.2 Profile of the respondents.

There were 116 males (58.0%) and 84 females (42.0%) that filled out the survey. The breakdown by age group shows that 27.0% of respondents were between the ages of 20 and 29, 34.5% were between the ages of 30 and 39, and 31.0% were between the ages of 40 and 49. Of the respondents, 70 (35%) had bachelor's degrees or higher; 42 (21%) had associate's degrees; 39 (19%) had master's degrees or higher; and 14 (7%) had no formal education beyond high school. There were 95 employees (47.5% of the total) with fewer than 5 years of service, 58 (29.0%), 34 (17.0%), and 13 (6.5%) with 15 years or more.

**Table 4.1 Demographic profile of respondents**

Variable	Category	Frequency	Percentage %
Gender	Male	116	58.0
	Female	84	42.0
Age	20-29 years	54	27.0
	30-39 years	69	34.5
	40-49 years	62	31.0
	50 or above	15	7.5
Education	Up to Senior High	35	17.5
	Diploma/HND	42	21.0
	Bachelor degree	70	35.0



	Postgraduate	39	19.5
	Others	14	7.0
Years with firm	Less than 5 years	95	47.5
	6 – 10 years	58	29.0
	10 – 15 years	34	17.0
	Above 15 years	13	6.5
Total		<b>200</b>	<b>100%</b>

**Source: Field Survey (2022)**

### 4.3 Reliability

The reliability of the data and the numerous constructs employed in this study was examined. Using Cronbach's alpha, we evaluated the instrument used in this study for its reliability and internal consistency. In most cases, an alpha of .70 or higher on the Cronbach's scale is considered to be reliable. Hair et al. (2014). The results show that the alpha coefficients for CSR (.914), green innovation (.902), and company performance (.911) are all rather high. All constructs in this investigation had Cronbach's alphas above .70, as shown in the table below; making them suitable for use in future studies (Hair et al., 2014)

**Table 4.2 Reliability Test**

Items	Number of items	Cronbach's Alpha ( $\alpha$ )
Corporate social responsibility	10	.914
Green innovation	8	.902
Firm performance	10	.911

**Source: Field Survey (2022)**

#### 4.4 Descriptive and Correlation Matrix

The descriptive and correlative aspects of the study were described here. The research looked at a range of statements on a Liker scale from 1 to 7, with 7 being the highest, to gauge CSR, green innovation, and company success. The study found that the mean and standard deviation of CSR were 6.12 and .977, respectively. The majority of respondents agreed with statements meant to evaluate businesses' commitment to social responsibility, the data showed. This is proof that the organisation practices excellent corporate social responsibility. Eco-friendly innovations have a mean and standard deviation of 5.98 and 1.026, respectively. Results showed that respondents were unanimous in their agreement with all statements used to evaluate environmentally friendly inventions (mean score > 4). There is a great deal of cutting-edge eco-friendly technology available. It was calculated that the average performance of a corporation is 6.01%, with a standard deviation of 1.04%. Researchers found that, on average, participants agreed with positive claims made about their businesses. This is another evidence of a firm performance. Corporate social responsibility was proven to have a favourable effect on firm performance ( $r = .688$ ,  $p < 0.01$ ). Corporate social responsibility has a positive correlation with green innovation ( $r = .507$ ,  $p < 0.01$ ). Further, green innovation has a positive correlation with firm performance ( $r = .591$ ,  $p < 0.01$ ).

**Table 4.3 Descriptive and Correlation matrix**

Item	Mean	Std.	CSR	GI	FP
Corporate social responsibility	6.12	.977	<b>1</b>		
Green innovation	5.98	1.026	.507**	<b>1</b>	
Firm performance	6.01	1.004	.688**	.591**	<b>1</b>

**\*\*Correlation is significant at the 0.01 level (2-tailed).**

**Source: Field Survey (2022)**

#### 4.5 Hypothesis testing

The primary objective of the study was to assess the relationship between CSR and firm performance. There was a statistically significant positive correlation between corporate social responsibility and firm performance ( $\beta = .714$ ,  $t = 9.117$ ). Consequently, an increase in corporate social responsibility leads to an improvement in business performance. *Therefore, the first hypothesis, that there is a significant positive relationship between CSR and firm performance, is approved.* Furthermore, corporate social responsibility accounts for 51.7% of the variance in firm performance.

The second objective of the study was to investigate the relationship between CSR and ecological innovation. This result indicates that CSR contributes substantially to green innovation ( $\beta = .511$ ,  $t = 6.259$ ). Consequently, an increase in corporate social responsibility will result in a rise in ecological innovation. *Thus, it can be concluded that there is a significant positive relationship between corporate social responsibility and ecological innovation.* In addition, corporate social responsibility explains 31.1% of green innovation variation.

The research concluded with an examination of the relationship between ecological innovation and firm performance. This finding demonstrates a positive correlation between green innovation and firm performance ( $\beta = 0.608$ ,  $t = 8.128$ ). Consequently, a rise in ecological innovation results in enhanced business performance. *Therefore, it is acknowledged that there exists a significant positive relationship between green innovation and firm performance.* In addition, green innovation accounts for 46.2% of the variance in firm performance.

The study also assessed the role of green innovation as a mediator between corporate social responsibility and firm performance. The hypothesis that green innovation mediates the

relationship between corporate social responsibility and business performance was tested using the methodology devised by Baron and Kenyon (1986). By incorporating the mediator variable into the regression equation, this method suggests that mediation is achieved when the independent variable predicts the dependent variable and mediator variable in a significant manner. The findings indicate that the incorporation of green innovation renders the impact of corporate social responsibility on firm performance statistically insignificant. The regression coefficient decreases from  $\beta = .714$ , (9,117), in Model 1 to .149, (2,166), in Model 4. Full mediation occurs when the indirect path is the only significant one, whereas partial mediation occurs when both the direct and indirect pathways are significant. This suggests that green innovation partially mediates the relationship between corporate social responsibility and firm performance, as the direct relationship is statistically insignificant. The relationship between corporate social responsibility and firm performance is mediated by green innovation.

**Table 4.4 Regression analysis**

Construct	Firm performance	Green innovation	Firm performance	Firm performance
	Model 1	Model 2	Model 3	Model 4
<b>Main effect</b>	Beta (t-value)	Beta (t-value)	Beta (t-value)	Beta (t-value)
Corporate social responsibility	.714 (9.117)	.511 (6.259)		.149 (2.166)
<b>Mediator</b>				
Green innovation			.608 (8.128)	.234 (3.419)
<b>Model indices</b>				
R	.688	.507	.591	.533
R square	.517	.311	.462	.492
Adjusted R Square	.512	.308	.458	.488
$\Delta F$	74.374	51.625	63.365	59.478
Sig.	.000	.000	.000	.000

Source: Field Study, 2022



#### 4.6 Discussions

The primary objective of the study was to assess the relationship between CSR and firm performance. There was a statistically significant positive correlation between corporate social responsibility and firm performance ( $\beta = .714$ ,  $t = 9.117$ ). Consequently, an increase in corporate social responsibility leads to an improvement in business performance. *Therefore, the first hypothesis, that there is a significant positive relationship between CSR and firm performance, is approved.* Furthermore, corporate social responsibility accounts for 51.7% of the variance in firm performance. The vast majority of studies have discovered a favourable connection between CSR and business success, while the details of this connection are still up for debate. Consumers will place a higher value on a company's offerings if they believe the company has a genuine interest in the well-being of the neighbourhoods in which it does business, as proposed by the Community Care Hypothesis (Maignan & Ferrell, 2001). Having these qualities in a product increases customer happiness, brand loyalty, and word of mouth (Sen et al., 2006). Since CSR is a consideration for consumers when making purchases, we can infer that associations with positive CSR are advantageous for both the firm and the product, while those with negative CSR are counterproductive. According to Hill and Langan (2014), a company's reputation can suffer if it does not repair the harm it has caused to the environment. However, businesses who forge ahead with stricter environmental regulations will gain an advantage over their rivals (Barrett, 1992). When environmental management systems are implemented, costs connected with the environmental crisis, raw material waste, and inefficient industrial processes are mitigated. The stock values of companies that implement environmentally friendly practises and actively seek out environmental funding increase (Klassen and McLaughlin, 1996).

The second objective of the study was to investigate the relationship between CSR and ecological innovation. This result indicates that CSR contributes substantially to green innovation ( $\beta = .511$ ,  $t = 6.259$ ). Consequently, an increase in corporate social responsibility will result in a rise in ecological innovation. *Thus, it can be concluded that there is a significant positive relationship between corporate social responsibility and ecological innovation.* In addition, corporate social responsibility explains 31.1% of green innovation variation. Successfully linking CSR performance with green innovation was associated with a competitive advantage, as shown by Broadstock et al. (2019). The dissemination and use of CSR and green innovation data is yet another option for companies (Gras-gil et al., 2016). It has been established that CSR is good for a company in many ways, including its financial line, public image, staff morale, client retention, and employee growth (Gürlek and Tuna 2017; Mazodier et al., 2021). According to research by Sáez-Martnez et al. (2016), an organization's commitment to environmental responsibility improves its eco-innovation, pollution reduction, and competitiveness. Eco-innovation, for example (Leito et al., 2019; Barba-Sánchez and Atienza-Sahuquillo, 2016; Sáez-Martnez et al., 2016) has been shown to boost business outcomes, as have other types of green innovation.

The research concluded with an examination of the relationship between ecological innovation and firm performance. This finding demonstrates a positive correlation between green innovation and firm performance ( $\beta = 0.608$ ,  $t = 8.128$ ). Consequently, a rise in ecological innovation results in enhanced business performance. *Therefore, it is acknowledged that there exists a significant positive relationship between green innovation and firm performance.* In addition, green innovation accounts for 46.2% of the variance in firm performance. The core to management's policy is the conviction that eco-friendly innovation improves firm performance (Novitasari and Agustia 2021; Siagian et

al. 2021). However, the competitive business world must contribute to the creation and maintenance of effective stakeholder control. Given this, it is evident that a policy's accuracy is vital to its ability to pave the way for MNCs (Antonioli et al., 2013; Xue et al., 2019). Furthermore, green innovation improves firm performance and ecological sustainability (Tariq et al., 2017; Xie et al., 2019). Environmental proactivity, as defined by Barba-Sánchez and Atienza-Sahuquillo (2016), is defined as a strategy to adopting eco-innovation that prioritises green innovation as a means of mitigating and minimising harmful effects on the environment. The results of this study show that 312 wineries in Spain that take environmental action see positive commercial and environmental returns. In addition, Leito et al. (2019) pointed out that the technology used, market characteristics, government policies, cooperation partnerships, and lean management may have a significant impact on eco-innovation in 334 Portuguese firms, all of which would improve the competitive dynamic of the Portuguese economy. Further, Sáez-Martnez et al. (2016) discovered, across a sample of 3647 SMEs operating in 38 countries, that enhanced corporate environmental performance was substantially related with enhanced firm performance across environmental and economic measures.

The study also assessed the role of green innovation as a mediator between corporate social responsibility and firm performance. The hypothesis that green innovation mediates the relationship between corporate social responsibility and business performance was tested using the methodology devised by Baron and Kenyon (1986). By incorporating the mediator variable into the regression equation, this method suggests that mediation is achieved when the independent variable predicts the dependent variable and mediator variable in a significant manner. The findings indicate that the incorporation of green innovation renders the impact of corporate social responsibility on firm performance statistically insignificant. The regression coefficient decreases from  $\beta = .714$ , (9,117), in

Model 1 to.149, (2,166), in Model 4. Full mediation occurs when the indirect path is the only significant one, whereas partial mediation occurs when both the direct and indirect pathways are significant. This suggests that green innovation partially mediates the relationship between corporate social responsibility and firm performance, as the direct relationship is statistically insignificant. The relationship between corporate social responsibility and firm performance is mediated by green innovation.

Several elements, such as CSR and firm performance, might enhance the long-term viability of CSR practises through boosting trust among stakeholders. Trust from customers helped counteract the negative effects of CSR, according to research by Wei et al. (2020), which in turn improved firm performance. CSR has a positive impact on firm performance even when it does not generate a return on investment, as Canh et al. (2019) demonstrated. The government supports CSR initiatives to get firms to pay attention to environmental concerns. The guidelines in place will determine how quickly businesses can create and spread eco-innovation with the goal of reducing emissions. As stated by Leitao et al. (2019), Portugal's governmental policies have had a significant impact on eco-innovation in the country's 334 firms by mandating incentives like as tax exemptions and government subsidies for businesses that minimise emissions. Therefore, CSR benefits companies (Flammer 2015; Nguyen et al. In addition to these benefits, CSR makes more efficient use of resources and improves the company's standing with its stakeholders, clients, and suppliers (Orlitzky et al., 2003).



## **CHAPTER FIVE**

### **SUMMARY OF THE FINDINGS, CONCLUSION AND RECOMMENDATION**

#### **5.1 Introduction**

This section summarises the study, draws conclusions, and offers recommendations based on its findings.

#### **5.2 Summary of the findings**

This study examined the relationship between CSR, green innovation, and firm performance. The research objectives were considered when composing the summary of the findings.

The primary purpose of the research was to examine the nexus between CSR and firm performance. This finding demonstrates a statistically significant and favourable correlation between corporate social responsibility and firm performance. This means that if CSR initiatives become businesses that are more common, as a whole benefit. Additionally, CSR is responsible for 51.7% of the variance in corporate success. The second objective was to analyse the connections between CSR and green innovations. Ecological progress was found to be significantly correlated with corporate social responsibility. Green innovation will increase as a direct result of the growing emphasis on CSR by businesses. More than a third (21.1%) of the variance in green innovation can be attributed to CSR initiatives. The third part of the research looked at how green innovation affects the success of businesses. The data demonstrates that green innovation significantly improves business results. As a result, improved business results can be attributed to the uptick in green innovations. In addition, green innovation accounts for 46.2% of the variance in company success. More specifically, the study examined how green innovation may serve as a moderator between CSR and firm performance. Corporate

social responsibility and financial success were investigated using a mediation analysis model developed by Baron and Kenny (1986). When factoring in environmental innovation, the study found that CSR's impact on business success was no longer statistically significant. Mediating the relationship between CSR and firm performance is green innovation.

### **5.3 Conclusion**

Corporations are now expected to make a significant impact on the sustainable development of society (Dartey-Baah and Amoako, 2021; Bikefe et al., 2020), reflecting a significant shift in the perception of organisations' roles and responsibilities in modern society. Corporate social responsibility (CSR) refers to the practise of a company making a concerted effort to improve the areas in which it operates and to reward its employees and suppliers for doing so (Melissen et al., 2018; Doshmanli et al., 2018; Bello et al., 2016; Jamali et al., 2017). It is becoming increasingly crucial to evaluate a company's CSR efforts alongside financial metrics (Kucharska & Kowalczyk, 2019; Makanyezaa et al., 2018; Moneva & Hernández-Pajares, 2018), therefore there is pressure on firms to get involved. CSR's potential role in fostering sustainability breakthroughs like green innovation has received scant attention from academics. The empirical topic of whether or not CSR promotes environmentally beneficial innovation is still open and requires more research. The goal of this study was to provide missing information from the current literature.

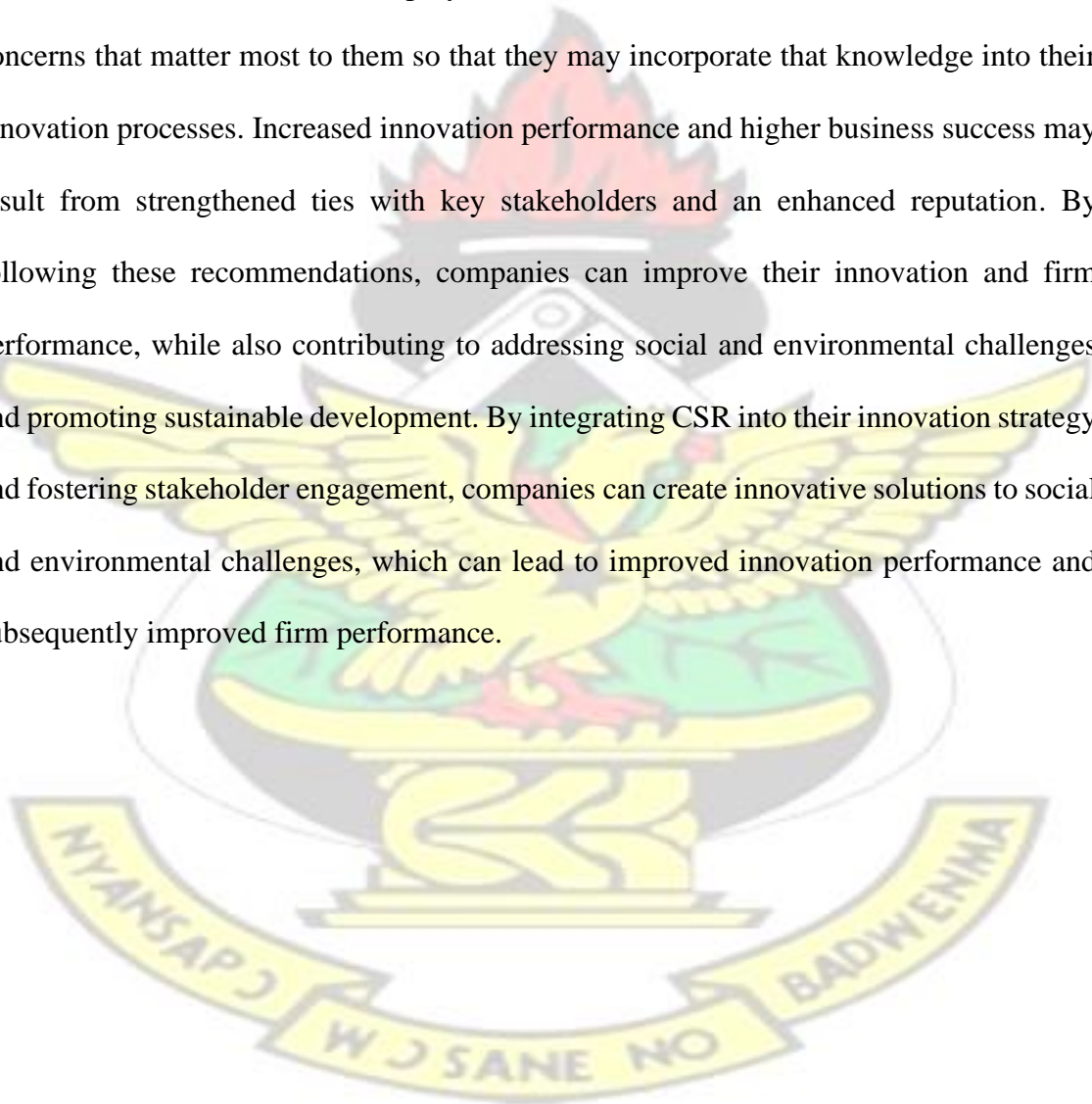
This study examined the relationship between CSR, green innovation, and firm performance. The research objectives were considered when composing the summary of the findings. The study used a sample size of 200 and regression was used to test the hypothesis. The study looked into the connection between CSR and firm performance and

found that it was positively correlated with financial outcomes. CSR activities account for 51.7% of the variance in business results. Based on the findings, it was shown that CSR has a highly substantial positive correlation with green innovation. Corporate social responsibility accounts for 31.1% of the variation in green innovation. The research concluded that green innovation is good for business since it found a strong correlation between green innovation and corporate success. Green innovation could account for 46.2% of the variation in business success. Additionally, green innovation was found to have a function as a mediator between CSR and firm performance, as was hypothesised in the study. From the findings, firms need to practice CSR with other mutual friendly variables such as green innovation to achieve stellar business performance.

#### **5.4 Recommendation**

The study recommends that companies should not treat CSR as a separate project but should instead make it part of their overall business plan. This can involve setting specific CSR goals and metrics, and regularly tracking and reporting progress. While CSR can have inherent value for society and the environment, it is also important for companies to consider the potential financial benefits of CSR initiatives. Companies should evaluate the potential financial returns of CSR initiatives and communicate these benefits to stakeholders. Additionally, companies should prioritize creating a culture that supports innovation, including by encouraging experimentation, risk-taking, and creativity. This can involve providing resources and support for innovation initiatives, as well as promoting a growth mindset among employees. To drive innovation, companies should invest in research and development (R&D) initiatives, including exploring emerging technologies and market trends. R&D investments can help companies stay ahead of competitors and identify new opportunities for growth. Companies should incorporate CSR into their innovation strategy, by identifying areas where social and environmental

challenges can be addressed through innovation. This can involve setting specific CSR goals and metrics for innovation projects, and regularly tracking and reporting progress. Companies should encourage employee creativity and collaboration in developing innovative CSR initiatives. This can involve providing resources and support for employee-driven innovation initiatives, as well as promoting a culture that supports experimentation and risk-taking. In addition, businesses should interact with their communities, customers, and employees to learn about the social and environmental concerns that matter most to them so that they may incorporate that knowledge into their innovation processes. Increased innovation performance and higher business success may result from strengthened ties with key stakeholders and an enhanced reputation. By following these recommendations, companies can improve their innovation and firm performance, while also contributing to addressing social and environmental challenges and promoting sustainable development. By integrating CSR into their innovation strategy and fostering stakeholder engagement, companies can create innovative solutions to social and environmental challenges, which can lead to improved innovation performance and subsequently improved firm performance.





## REFERENCE

- Abeysekara, N., Wang, H., & Kuruppuarachchi, D. (2019). Effect of supply-chain resilience on firm performance and competitive advantage: A study of the Sri Lankan apparel industry. *Business Process Management Journal*.
- Agarwal, A., Omuya, A., Harnly, A., & Rambow, O. (2012, July). A comprehensive gold standard for the enron organizational hierarchy. In *Proceedings of the 50th Annual Meeting of the Association for Computational Linguistics (Volume 2: Short Papers)* (pp. 161-165).
- Agyabeng-Mensah, Y., Ahenkorah, E., Afum, E., Agyemang, A. N., Agnikpe, C., & Rogers, F. (2020). Examining the influence of internal green supply chain practices, green human resource management and supply chain environmental cooperation on firm performance. *Supply Chain Management: An International Journal*, 25(5), 585-599.
- Albort-Morant, G., Henseler, J., Leal-Millán, A., & Cepeda-Carrión, G. (2017). Mapping the field: A bibliometric analysis of green innovation. *Sustainability*, 9(6), 1011.
- Albort-Morant, G., Leal-Millán, A., & Cepeda-Carrión, G. (2016). The antecedents of green innovation performance: A model of learning and capabilities. *Journal of Business Research*, 69(11), 4912-4917.
- Ali, H. Y., Asrar-ul-Haq, M., Amin, S., Noor, S., Haris-ul-Mahasbi, M., & Aslam, M. K. (2020). Corporate social responsibility and employee performance: The mediating role of employee engagement in the manufacturing sector of Pakistan. *Corporate Social Responsibility and Environmental Management*, 27(6), 2908-2919.
- Al-Matari, E. M., Al-Swidi, A. K., & Fadzil, F. H. B. (2014). The measurements of firm performance's dimensions. *Asian Journal of Finance & Accounting*, 6(1), 24.
- Amaeshi, K., Adi, A. B. C., Ogbechie, C., & Amao, O. O. (2006). Corporate social responsibility in Nigeria: western mimicry or indigenous influences?. Available at SSRN 896500.
- Anser, M. K., Zhang, Z., & Kanwal, L. (2018). Moderating effect of innovation on corporate social responsibility and firm performance in realm of sustainable development. *Corporate Social Responsibility and Environmental Management*, 25(5), 799-806.
- Antonioli, D., Borghesi, S., & Mazzanti, M. (2016). Are regional systems greening the economy? Local spillovers, green innovations and firms' economic performances. *Economics of Innovation and New Technology*, 25(7), 692-713.
- Ar, I. M. (2012). The impact of green product innovation on firm performance and competitive capability: the moderating role of managerial environmental concern. *Procedia-Social and Behavioral Sciences*, 62, 854-864.
- Arenas, D., Lozano, J. M., & Albareda, L. (2009). The role of NGOs in CSR: Mutual perceptions among stakeholders. *Journal of business ethics*, 88, 175-197.

- Arfi, W. B., Hikkerova, L., & Sahut, J. M. (2018). External knowledge sources, green innovation and performance. *Technological Forecasting and Social Change*, 129, 210-220.
- Arsić, S., Stojanović, A., & Mihajlović, I. (2017). The most important dimensions of Corporate Social Responsibility. In *International May Conference on Strategic Management* (Vol. 17, pp. 318-336).
- Awan, U., Kraslawski, A., & Huiskonen, J. (2018). Understanding influential factors on implementing social sustainability practices in Manufacturing Firms: An interpretive structural modelling (ISM) analysis. *Procedia Manufacturing*, 17, 1039-1048.
- Azzone, G., Bianchi, R., Mauri, R., & Noci, G. (1997). Defining operating environmental strategies: programmes and plans within Italian industries. *Environmental Management and health*, 8(1), 4-19.
- Baah, C., & Jin, Z. (2019). Sustainable supply chain management and organizational performance: the intermediary role of competitive advantage. *J. Mgmt. & Sustainability*, 9, 119.
- Backhaus, K. B., Stone, B. A., & Heiner, K. (2002). Exploring the relationship between corporate social performance and employer attractiveness. *Business & Society*, 41(3), 292-318.
- Barba-Sánchez, V., & Atienza-Sahuquillo, C. (2016). Environmental proactivity and environmental and economic performance: Evidence from the winery sector. *Sustainability*, 8(10), 1014.
- Barney, J. B., & Hansen, M. H. (1994). Trustworthiness as a source of competitive advantage. *Strategic management journal*, 15(S1), 175-190.
- Basana, S. R., Siagian, H., Ubud, S., & Tarigan, Z. J. H. (2022). *The effect of top management commitment on improving operational performance through green purchasing and green production* (Doctoral dissertation, Petra Christian University).
- Battaglia, M., Testa, F., Bianchi, L., Iraldo, F., & Frey, M. (2014). Corporate social responsibility and competitiveness within SMEs of the fashion industry: Evidence from Italy and France. *Sustainability*, 6(2), 872-893.
- Behringer, K., & Szegedi, K. (2016). The role of CSR in achieving sustainable development-theoretical approach. *European Scientific Journal*, 12(22).
- Bekk, M., Spörrle, M., Hedjasie, R., & Kerschreiter, R. (2016). Greening the competitive advantage: antecedents and consequences of green brand equity. *Quality & Quantity*, 50, 1727-1746.
- Bekmezci, M. (2015). Companies' profitable way of fulfilling duties towards humanity and environment by sustainable innovation. *Procedia-Social and Behavioral Sciences*, 181, 228-240.

- Bello, K. B., Jusoh, A., & NOR, K. (2016). Perspectives on Consumers' response to Corporate Social Responsibility. *Studia Universitatis Babes-Bolyai, Negotia*, 61(3).
- Berman, S. L., Wicks, A. C., Kotha, S., & Jones, T. M. (1999). Does stakeholder orientation matter? The relationship between stakeholder management models and firm financial performance. *Academy of Management journal*, 42(5), 488-506.
- Bhardwaj, B. R. (2016). Role of green policy on sustainable supply chain management: a model for implementing corporate social responsibility (CSR). *Benchmarking: An International Journal*.
- Bhattacharya, C. B., Korschun, D., & Sen, S. (2009). Strengthening stakeholder–company relationships through mutually beneficial corporate social responsibility initiatives. *Journal of Business ethics*, 85, 257-272.
- Bigliardi, B., & Ivo Dormio, A. (2009). An empirical investigation of innovation determinants in food machinery enterprises. *European Journal of innovation management*, 12(2), 223-242.
- Bikefe, G., Umaru, Z., Araga, S., Faize, M., Ekanem, E., & Daniel, A. (2020). Corporate social responsibility (CSR) by small and medium Enterprise (SMEs). a systematic review.
- Boccia, F., Malgeri Manzo, R., & Covino, D. (2019). Consumer behavior and corporate social responsibility: An evaluation by a choice experiment. *Corporate Social Responsibility and Environmental Management*, 26(1), 97-105.
- Boehe, D. M., & Barin Cruz, L. (2010). Corporate social responsibility, product differentiation strategy and export performance. *Journal of Business ethics*, 91, 325-346.
- Bornschlegl, M. X., Manieri, A., Walsh, P., Catarci, T., & Hemmje, M. L. (2016, June). Road mapping infrastructures for advanced visual interfaces supporting big data applications in virtual research environments. In *Proceedings of the International Working Conference on Advanced Visual Interfaces* (pp. 363-367).
- Broadstock, D. C., Managi, S., Matousek, R., & Tzeremes, N. G. (2019). Does doing “good” always translate into doing “well”? An eco-efficiency perspective. *Business Strategy and the Environment*, 28(6), 1199-1217.
- Caligiuri, P., Mencin, A., & Jiang, K. (2013). Win–win–win: The influence of company-sponsored volunteerism programs on employees, NGOs, and business units. *Personnel Psychology*, 66(4), 825-860.
- Calza, F., Parmentola, A., & Tutore, I. (2017). Types of green innovations: Ways of implementation in a non-green industry. *Sustainability*, 9(8), 1301.
- Canh, N. T., Liem, N. T., Thu, P. A., & Khuong, N. V. (2019). The impact of innovation on the firm performance and corporate social responsibility of Vietnamese manufacturing firms. *Sustainability*, 11(13), 3666.

- Carrillo-Hermosilla, J., Del Río, P., & Könnölä, T. (2010). Diversity of eco-innovations: Reflections from selected case studies. *Journal of cleaner production*, 18(10-11), 1073-1083.
- Carroll, A. B. (1979). A three-dimensional conceptual model of corporate performance. *Academy of management review*, 4(4), 497-505.
- Charmondusit, K., Gheewala, S. H., & Mungcharoen, T. (2016). Green and sustainable innovation for cleaner production in the Asia-Pacific region. *Journal of Cleaner Production*, 134, 443-446.
- Chen, Y. C., Hung, M., & Wang, Y. (2018). The effect of mandatory CSR disclosure on firm profitability and social externalities: Evidence from China. *Journal of accounting and economics*, 65(1), 169-190.
- Chiou, T. Y., Chan, H. K., Lettice, F., & Chung, S. H. (2011). The influence of greening the suppliers and green innovation on environmental performance and competitive advantage in Taiwan. *Transportation Research Part E: Logistics and Transportation Review*, 47(6), 822-836.
- Chow, C. W., & Van Der Stede, W. A. (2006). The use and usefulness of nonfinancial performance measures. *Management accounting quarterly*, 7(3), 1.
- Christensen, R. M. (2012). *Mechanics of composite materials*. Courier Corporation.
- Chung, K. H., Yu, J. E., Choi, M. G., & Shin, J. I. (2015). The effects of CSR on customer satisfaction and loyalty in China: the moderating role of corporate image. *Journal of Economics, Business and Management*, 3(5), 542-547.
- Claire, M. D. (2017). Human rights: The emerging norm of corporate social responsibility. In *Human rights and corporations* (pp. 149-178). Routledge.
- Clarkson, M. E. (1995). A stakeholder framework for analyzing and evaluating corporate social performance. *Academy of management review*, 20(1), 92-117.
- Cohen, D., & Prusak, L. (2001). *In good company* (p. 94). Boston: Harvard Business School Press.
- Compa, L. (2008). Corporate social responsibility and workers' rights. *Comp. Lab. L. & Pol'y J.*, 30, 1.
- Costantini, V., Crespi, F., Marin, G., & Paglialunga, E. (2017). Eco-innovation, sustainable supply chains and environmental performance in European industries. *Journal of cleaner production*, 155, 141-154.
- Dangelico, R. M., & Pujari, D. (2010). Mainstreaming green product innovation: Why and how companies integrate environmental sustainability. *Journal of business ethics*, 95, 471-486.
- Dartey-Baah, K., & Amoako, G. K. (2021). A review of empirical research on corporate social responsibility in emerging economies. *International Journal of Emerging Markets*, 16(7), 1330-1347.



- Davis, K. (1973). The case for and against business assumption of social responsibilities. *Academy of Management journal*, 16(2), 312-322.
- DeBoer, J., Panwar, R., & Rivera, J. (2017). Toward a place-based understanding of business sustainability: The role of green competitors and green locales in firms' voluntary environmental engagement. *Business Strategy and the Environment*, 26(7), 940-955.
- DesJardins, J. (1998). Corporate environmental responsibility. *Journal of business ethics*, 17(8), 825-838.
- Doshmanli, M., Salamzadeh, Y., & Salamzadeh, A. (2018). Development of SMEs in an emerging economy: does corporate social responsibility matter?. *International Journal of Management and Enterprise Development*, 17(2), 168-191.
- Du, S., Bhattacharya, C. B., & Sen, S. (2010). Maximizing business returns to corporate social responsibility (CSR): The role of CSR communication. *International journal of management reviews*, 12(1), 8-19.
- Durif, F., Boivin, C., & Julien, C. (2010). In search of a green product definition. *Innovative Marketing*, 6(1).
- Dyllick, T., & Muff, K. (2016). Clarifying the meaning of sustainable business: Introducing a typology from business-as-usual to true business sustainability. *Organization & Environment*, 29(2), 156-174.
- Dzever, S., & Gupta, B. (2012). Business process outsourcing industry in India: Additional benefits of a CSR approach. *Asian Business & Management*, 11, 273-289.
- Engle, E. (2004). Corporate social responsibility (CSR): market-based remedies for international human rights violations. *Willamette L. Rev.*, 40, 103.
- Farooq, O., Rupp, D. E., & Farooq, M. (2017). The multiple pathways through which internal and external corporate social responsibility influence organizational identification and multifoci outcomes: The moderating role of cultural and social orientations. *Academy of management journal*, 60(3), 954-985.
- Feng, M., Wang, X., & Kreuze, J. G. (2017). Corporate social responsibility and firm financial performance: Comparison analyses across industries and CSR categories. *American Journal of Business*.
- Flammer, C. (2015). Does corporate social responsibility lead to superior financial performance? A regression discontinuity approach. *Management Science*, 61(11), 2549-2568.
- Frederick, W. C. (1994). From CSR1 to CSR2: The maturing of business-and-society thought. *Business & Society*, 33(2), 150-164.
- Freeman, R. E. (2004). The stakeholder approach revisited. *Zeitschrift für wirtschafts-und unternehmensethik*, 5(3), 228-254.
- Freeman, R. E. (2010). *Strategic management: A stakeholder approach*. Cambridge university press.

- Freeman, R. E., Wicks, A. C., & Parmar, B. (2004). Stakeholder theory and “the corporate objective revisited”. *Organization science*, 15(3), 364-369.
- Galbreath, J., & Shum, P. (2012). Do customer satisfaction and reputation mediate the CSR–FP link? Evidence from Australia. *Australian journal of management*, 37(2), 211-229.
- Gillani, F., Chatha, K. A., Jajja, M. S. S., & Farooq, S. (2020). Implementation of digital manufacturing technologies: Antecedents and consequences. *International Journal of Production Economics*, 229, 107748.
- Golob, U., Lah, M., & Jančič, Z. (2008). Value orientations and consumer expectations of corporate social responsibility. *Journal of Marketing Communications*, 14(2), 83-96.
- Gopalakrishnan, S., Bierly, P., & Kessler, E. H. (1999). A reexamination of product and process innovations using a knowledge-based view. *Journal of High Technology Management Research*, 1(10), 147-166.
- Gordon, M., Lockwood, M., Vancley, F., Hanson, D., & Schirmer, J. (2012). Divergent stakeholder views of corporate social responsibility in the Australian forest plantation sector. *Journal of environmental management*, 113, 390-398.
- Gras-Gil, E., Manzano, M. P., & Fernández, J. H. (2016). Investigating the relationship between corporate social responsibility and earnings management: Evidence from Spain. *BRQ Business Research Quarterly*, 19(4), 289-299.
- Greening, D. W., & Turban, D. B. (2000). Corporate social performance as a competitive advantage in attracting a quality workforce. *Business & society*, 39(3), 254-280.
- Hansen, E. G., & Schaltegger, S. (2016). The sustainability balanced scorecard: A systematic review of architectures. *Journal of Business Ethics*, 133, 193-221.
- Harrison, J. S., & Freeman, R. E. (1999). Stakeholders, social responsibility, and performance: Empirical evidence and theoretical perspectives. *Academy of management Journal*, 42(5), 479-485.
- Heal, G. (2005). Corporate social responsibility: An economic and financial framework. *The Geneva papers on risk and insurance-Issues and practice*, 30, 387-409.
- Heald, M. (2018). The Social Responsibilities of Business.
- Hermanto, Y. B., Lusy, L., & Widyastuti, M. (2021). How financial performance and state-owned enterprise (SOE) values are affected by good corporate governance and intellectual capital perspectives. *Economies*, 9(4), 134.
- Hermundsdottir, F., & Aspelund, A. (2021). Sustainability innovations and firm competitiveness: A review. *Journal of Cleaner Production*, 280, 124715.
- Hernaus, T., Pejić Bach, M., & Bosilj Vukšić, V. (2012). Influence of strategic approach to BPM on financial and non-financial performance. *Baltic Journal of Management*, 7(4), 376-396.

- Hill, R. P., & Langan, R. (Eds.). (2014). *Handbook of research on marketing and corporate social responsibility*. Edward Elgar Publishing.
- Hillman, A. J., & Keim, G. D. (2001). Shareholder value, stakeholder management, and social issues: what's the bottom line?. *Strategic management journal*, 22(2), 125-139.
- Ho, Y. C., Wang, W. B., & Shieh, W. L. (2016). An empirical study of green management and performance in Taiwanese electronics firms. *Cogent Business & Management*, 3(1), 1266787.
- Hou, C. E., Lu, W. M., & Hung, S. W. (2019). Does CSR matter? Influence of corporate social responsibility on corporate performance in the creative industry. *Annals of Operations Research*, 278, 255-279.
- Istiqomah, L., Abbas, D. S., Hidayat, I., & Santoso, S. B. (2022). Pengaruh Eco-control, Ukuran Perusahaan, dan Environmental Performance Terhadap Pengungkapan Corporate Social Responsibility (Pada Perusahaan Manufaktur Sub Sektor Makanan dan Minuman Yang Terdaftar Di Bursa Efek Indonesia periode 2016-2021). *Akuntansi*, 1(4), 56-70.
- Ittner, C. D., & Larcker, D. F. (1998). Are nonfinancial measures leading indicators of financial performance? An analysis of customer satisfaction. *Journal of accounting research*, 36, 1-35.
- Jamali, D., Karam, C., & Blowfield, M. (2017). Introduction: Corporate social responsibility in developing countries: a development-oriented approach. In *Development-oriented corporate social responsibility* (pp. 1-12). Routledge.
- Jenkins, H., & Obara, L. (2006). Corporate Social Responsibility (CSR) in the mining industry—the risk of community dependency. In *Corporate Responsibility Research Conference, Dublin* (pp. 4-5).
- Jin, Y., Lin, J. S., Gilbreath, B., & Lee, Y. I. (2017). Motivations, consumption emotions, and temporal orientations in social media use: A strategic approach to engaging stakeholders across platforms. *International Journal of Strategic Communication*, 11(2), 115-132. Jin, Y., Lin, J. S., Gilbreath, B., & Lee, Y. I. (2017). Motivations, consumption emotions, and temporal orientations in social media use: A strategic approach to engaging stakeholders across platforms. *International Journal of Strategic Communication*, 11(2), 115-132.
- Jones, T. M. (1995). Instrumental stakeholder theory: A synthesis of ethics and economics. *Academy of management review*, 20(2), 404-437.
- Kam-Sing Wong, S. (2012). The influence of green product competitiveness on the success of green product innovation: Empirical evidence from the Chinese electrical and electronics industry. *European Journal of Innovation Management*, 15(4), 468-490.
- Kemp, R., & Arundel, A. (1998). Survey indicators for environmental innovation.

- Khan, P. A., & Johl, S. K. (2019). Nexus of comprehensive green innovation, environmental management system-14001-2015 and firm performance. *Cogent Business & Management*, 6(1), 1691833.
- Khater, I. (2019). Machine learning and network analysis for macromolecular structure determination from super-resolution microscopy.
- Kim, H. S., & Lee, S. Y. (2015). Testing the buffering and boomerang effects of CSR practices on consumers' perception of a corporation during a crisis. *Corporate reputation review*, 18, 277-293.
- Kim, R. C. (2022). Rethinking corporate social responsibility under contemporary capitalism: Five ways to reinvent CSR. *Business Ethics, the Environment & Responsibility*, 31(2), 346-362.
- Kim, Y. J. (2015). Convergence of Business Information System Process using Knowledge-based Method. *Journal of the Korea Convergence Society*, 6(4), 65-71.
- Kivimaa, P., & Kautto, P. (2010). Making or breaking environmental innovation? Technological change and innovation markets in the pulp and paper industry. *Management Research Review*, 33(4), 289-305.
- Klassen, R. D., & McLaughlin, C. P. (1996). The impact of environmental management on firm performance. *Management science*, 42(8), 1199-1214.
- Kong, D., Shi, L., & Yang, Z. (2019). Product recalls, corporate social responsibility, and firm value: Evidence from the Chinese food industry. *Food Policy*, 83, 60-69.
- Kotabe, M., & Murray, J. Y. (1990). Linking product and process innovations and modes of international sourcing in global competition: A case of foreign multinational firms. *Journal of international business studies*, 21, 383-408.
- Krueger, P., Sautner, Z., Tang, D. Y., & Zhong, R. (2021). The effects of mandatory ESG disclosure around the world. *European Corporate Governance Institute–Finance Working Paper*, (754), 21-44.
- Kucharska, W., & Kowalczyk, R. (2019). How to achieve sustainability?—Employee's point of view on company's culture and CSR practice. *Corporate Social Responsibility and Environmental Management*, 26(2), 453-467.
- Küçükoğlu, M. T., & Pinar, R. İ. (2015). Positive influences of green innovation on company performance. *Procedia-Social and Behavioral Sciences*, 195, 1232-1237.
- Łaskiewicz, A. (2019). Eco-innovations in SMEs. *Przedsiębiorczość i Zarządzanie*, 20(8), 119-131.
- Lee, E., Walker, M., & Zeng, C. C. (2017). Do Chinese state subsidies affect voluntary corporate social responsibility disclosure?. *Journal of Accounting and Public Policy*, 36(3), 179-200.



- Leitão, J., Pereira, D., & Gonçalves, Â. (2019). Quality of work life and organizational performance: Workers' feelings of contributing, or not, to the organization's productivity. *International journal of environmental research and public health*, 16(20), 3803.
- Lepak, D. P., Smith, K. G., & Taylor, M. S. (2007). Value creation and value capture: A multilevel perspective. *Academy of management review*, 32(1), 180-194.
- Lins, K. V., Servaes, H., & Tamayo, A. (2017). Social capital, trust, and firm performance: The value of corporate social responsibility during the financial crisis. *the Journal of Finance*, 72(4), 1785-1824.
- Lindgreen, A., Swaen, V., & Johnston, W. J. (2009). Corporate social responsibility: An empirical investigation of US organizations. *Journal of business ethics*, 85, 303-323.
- López-Cózar Navarro, C., Priede Bergamini, T., & Hilliard, I. O. (2014). Family and non-family business differences in corporate social responsibility approaches.
- Luxmi. (2014). Organizational learning act as a mediator between the relationship of knowledge management and organizational performance. *Management and Labour Studies*, 39(1), 31-41.
- Maignan, I., & Ferrell, O. C. (2001). Corporate citizenship as a marketing instrument- Concepts, evidence and research directions. *European journal of marketing*, 35(3/4), 457-484.
- Makanyeza, C., Chitambara, T. L., & Kakava, N. Z. (2018). Does corporate social responsibility influence firm performance? Empirical evidence from Harare, Zimbabwe. *Journal of African Business*, 19(2), 155-173.
- Mardnly, Z., Mouselli, S., & Abdulraouf, R. (2018). Corporate governance and firm performance: an empirical evidence from Syria. *International Journal of Islamic and Middle Eastern Finance and Management*.
- Masa'deh, R. E., Obeidat, B. Y., & Tarhini, A. (2016). A Jordanian empirical study of the associations among transformational leadership, transactional leadership, knowledge sharing, job performance, and firm performance: A structural equation modelling approach. *Journal of management development*, 35(5), 681-705.
- Mazodier, M., Carrillat, F. A., Sherman, C., & Plewa, C. (2021). Can donations be too little or too much?. *European Journal of Marketing*, 55(1), 271-296.
- Mbanyele, W., Huang, H., Li, Y., Muchenje, L. T., & Wang, F. (2022). Corporate social responsibility and green innovation: Evidence from mandatory CSR disclosure laws. *Economics Letters*, 212, 110322.
- McWilliams, A., Siegel, D. S., & Wright, P. M. (2006). Corporate social responsibility: Strategic implications. *Journal of management studies*, 43(1), 1-18.
- Melissen, F., Mzembe, A. N., Idemudia, U., & Novakovic, Y. (2018). Institutional antecedents of the corporate social responsibility narrative in the developing world

- context: Implications for sustainable development. *Business strategy and the environment*, 27(6), 657-676.
- Milost, F. (2013). Information power of non-financial performance measures. *International Journal of Business Management & Economic Research*, 4(6), 823-828.
- Mishra, S., & Suar, D. (2010). Do stakeholder management strategy and salience influence corporate social responsibility in Indian companies?. *Social Responsibility Journal*, 6(2), 306-327.
- Moneva, J. M., & Hernández-Pajares, J. (2018). Corporate social responsibility performance and sustainability reporting in SMEs: an analysis of owner-managers' perceptions. *International journal of sustainable economy*, 10(4), 405-420.
- Moon, J., Crane, A., & Matten, D. (2005). Can corporations be citizens? Corporate citizenship as a metaphor for business participation in society. *Business ethics quarterly*, 15(3), 429-453.
- Morgan, N. A., Vorhies, D. W., & Mason, C. H. (2009). Market orientation, marketing capabilities, and firm performance. *Strategic management journal*, 30(8), 909-920.
- Munasinghe, M., Jayasinghe, P., Deraniyagala, Y., Matlaba, V. J., dos Santos, J. F., Maneschy, M. C., & Mota, J. A. (2019). Value-Supply Chain Analysis (VSCA) of crude palm oil production in Brazil, focusing on economic, environmental and social sustainability. *Sustainable Production and Consumption*, 17, 161-175.
- Negny, S., Belaud, J. P., Robles, G. C., Reyes, E. R., & Ferrer, J. B. (2012). Toward an eco-innovative method based on a better use of resources: application to chemical process preliminary design. *Journal of Cleaner Production*, 32, 101-113.
- Ngo, T. L. (2011). *Impacts Of Corporate Social Responsibility On The Financial Performance Of The Firms* (Doctoral dissertation, Khoa Quoc Te).
- Novitasari, M., & Agustia, D. (2021). Green supply chain management and firm performance: The mediating effect of green innovation. *Journal of Industrial Engineering and Management*, 14(2), 391-403.
- Oliveira, R., Zanella, A., & Camanho, A. S. (2019). The assessment of corporate social responsibility: The construction of an industry ranking and identification of potential for improvement. *European Journal of Operational Research*, 278(2), 498-513.
- Orlitzky, M. (2013). Corporate social responsibility, noise, and stock market volatility. *Academy of Management Perspectives*, 27(3), 238-254.
- Papadas, K. K., Avlonitis, G. J., & Carrigan, M. (2017). Green marketing orientation: Conceptualization, scale development and validation. *Journal of Business Research*, 80, 236-246.

- Perrini, F., Castaldo, S., Misani, N., & Tencati, A. (2010). The impact of corporate social responsibility associations on trust in organic products marketed by mainstream retailers: a study of Italian consumers. *Business Strategy and the Environment*, 19(8), 512-526.
- Popp, D., Newell, R. G., & Jaffe, A. B. (2010). Energy, the environment, and technological change. *Handbook of the Economics of Innovation*, 2, 873-937.
- Rajabian Tabesh, A., Batt, P. J., & Butler, B. (2016). Modelling the impact of environmental and organizational determinants on green supply chain innovation and performance. *Journal of food products marketing*, 22(4), 436-454.
- Randerson, K. (2022). Conceptualizing family business social responsibility. *Technological Forecasting and Social Change*, 174, 121225.
- Rangan, K., Chase, L., & Karim, S. (2015). The truth about CSR. *Harvard Business Review*, 93(1/2), 40-49.
- Rattanasirivilai, S., Somjai, S., & Deeprasert, D. (2020). The Role of Gender as a Moderator Linking Corporate Social Responsibility Perception to Employees Engagement: A Study in the Services Sector of Thailand. *PSAKU International Journal of Interdisciplinary Research*, 7(2).
- Rehfeld, K. M., Rennings, K., & Ziegler, A. (2007). Integrated product policy and environmental product innovations: An empirical analysis. *Ecological economics*, 61(1), 91-100.
- Relch, R. B. (1998). The new meaning of corporate social responsibility. *California management review*, 40(2), 8-17.
- Rennings, K. (2000). Redefining innovation—eco-innovation research and the contribution from ecological economics. *Ecological economics*, 32(2), 319-332.
- Russo, A., & Perrini, F. (2010). Investigating stakeholder theory and social capital: CSR in large firms and SMEs. *Journal of Business ethics*, 91, 207-221.
- Saeidi, P., Robles, L. A. A., Saeidi, S. P., & Zamora, M. I. V. (2021). How does organizational leadership contribute to the firm performance through social responsibility strategies?. *Heliyon*, 7(7), e07672.
- Saeidi, S. P., Sofian, S., Saeidi, P., Saeidi, S. P., & Saeidi, S. A. (2015). How does corporate social responsibility contribute to firm financial performance? The mediating role of competitive advantage, reputation, and customer satisfaction. *Journal of business research*, 68(2), 341-350.
- Sáez-Martínez, F. J., Díaz-García, C., & González-Moreno, Á. (2016). Factors promoting environmental responsibility in European SMEs: The effect on performance. *Sustainability*, 8(9), 898.
- Samuel, O. M., & Mqomboti, S. (2017). Developing an integrative CSR Model: Imperative for cultural and consultative dimensions. *Journal of African Business*, 18(1), 50-69.

- Sapta, I. K. S., Sudja, I. N., Landra, I. N., & Rustiarini, N. W. (2021). Sustainability performance of organization: mediating role of knowledge management. *Economies*, 9(3), 97.
- Sellitto, M. A., Camfield, C. G., & Buzuku, S. (2020). Green innovation and competitive advantages in a furniture industrial cluster: A survey and structural model. *Sustainable Production and Consumption*, 23, 94-104.
- Sen, S., Bhattacharya, C. B., & Korschun, D. (2006). The role of corporate social responsibility in strengthening multiple stakeholder relationships: A field experiment. *Journal of the Academy of Marketing science*, 34(2), 158-166.
- Shahzad, M., Qu, Y., Javed, S. A., Zafar, A. U., & Rehman, S. U. (2020). Relation of environment sustainability to CSR and green innovation: A case of Pakistani manufacturing industry. *Journal of Cleaner Production*, 253, 119938. SEE WHAT YOU CITED IN THE WORK
- Siagian, H., Tarigan, Z. J. H., & Basana, S. R. (2022). *The role of top management commitment in enhancing competitive advantage: The mediating role of green innovation, supplier, and customer integration* (Doctoral dissertation, Petra Christian University).
- Siagian, H., Tarigan, Z. J. H., & Basana, S. R. (2022). *The role of top management commitment in enhancing competitive advantage: The mediating role of green innovation, supplier, and customer integration* (Doctoral dissertation, Petra Christian University).
- Singh, M. P., Chakraborty, A., & Roy, M. (2016). The link among innovation drivers, green innovation and business performance: empirical evidence from a developing economy. *World Review of Science, Technology and Sustainable Development*, 12(4), 316-334.
- Soewarno, N., Tjahjadi, B., & Fithrianti, F. (2019). Green innovation strategy and green innovation: The roles of green organizational identity and environmental organizational legitimacy. *Management Decision*, 57(11), 3061-3078.
- Su, X., Xu, A., Lin, W., Chen, Y., Liu, S., & Xu, W. (2020). Environmental leadership, green innovation practices, environmental knowledge learning, and firm performance. *Sage Open*, 10(2), 2158244020922909.
- Tarigan, J., Susanto, A. R. S., Hatane, S. E., Jie, F., & Foedjiawati, F. (2021). Corporate social responsibility, job pursuit intention, quality of work life and employee performance: case study from Indonesia controversial industry. *Asia-Pacific Journal of Business Administration*, 13(2), 141-158.
- Tarigan, Z. J. H., Siagian, H., & Jie, F. (2021). Impact of enhanced Enterprise Resource Planning (ERP) on firm performance through green supply chain management. *Sustainability*, 13(8), 4358.
- Tariq, A., Badir, Y., & Chonglertham, S. (2019). Green innovation and performance: moderation analyses from Thailand. *European Journal of Innovation Management*.



- Tietze, F., Schiederig, T., & Herstatt, C. (2011). What is Green Innovation?—A quantitative literature review. In *The XXII ISPIM Conference*.
- Tjahjadi, B., Soewarno, N., Hariyati, H., Nafidah, L. N., Kustiningsih, N., & Nadyaningrum, V. (2020). The role of green innovation between green market orientation and business performance: Its implication for open innovation. *Journal of Open Innovation: Technology, Market, and Complexity*, 6(4), 173.
- Tseng, S. M., & Lee, P. S. (2014). The effect of knowledge management capability and dynamic capability on organizational performance. *Journal of enterprise information management*.
- Tu, Y., & Wu, W. (2021). How does green innovation improve enterprises' competitive advantage? The role of organizational learning. *Sustainable Production and Consumption*, 26, 504-516.
- Tuan, L. T. (2016). Organizational ambidexterity, entrepreneurial orientation, and I-deals: the moderating role of CSR. *Journal of Business Ethics*, 135, 145-159.
- Tziner, A., Oren, L., Bar, Y., & Kadosh, G. (2011). Corporate social responsibility, organizational justice and job satisfaction: how do they interrelate, if at all?. *Journal of Work and Organizational Psychology*, 27(1), 67-72.
- Uddin, M. B., Tarique, K. M., & Hassan, M. (2008). Three dimensional aspects of corporate social responsibility.
- Van Beurden, P., & Gössling, T. (2008). The worth of values—a literature review on the relation between corporate social and financial performance. *Journal of business ethics*, 82, 407-424.
- Verboncu, I., & Zalman, M. (2005). Management si performanþe. *Universitara House of Publishing, Bucharest*.
- Vilkaite-Vaitone, N., & Skackauskiene, I. (2019). Green marketing orientation: evolution, conceptualization and potential benefits. *Open Economics*, 2(1), 53-62.
- Vogel, D. J. (2005). Is there a market for virtue?: The business case for corporate social responsibility. *California management review*, 47(4), 19-45.
- Wahyudi, S. (2017). The effects of corporate social responsibility on manufacturing industry performance: the mediating role of social collaboration and green innovation. *Verslas: Teorija ir prakTika/Business: Theory and pracTice*, 152-159.
- Wang, H., Tong, L., Takeuchi, R., & George, G. (2016). Corporate social responsibility: An overview and new research directions: Thematic issue on corporate social responsibility. *Academy of Management journal*, 59(2), 534-544.
- Wanjiku, E. (2019). *Impact of Corporate Social Responsibility on Organizational Performance of Security Firms in Kenya: A Case of Group 4 Security Company* (Doctoral dissertation, United States International University-Africa).
- Weber, J. (Eds.). (2017). *Stakeholder management*. Emerald Group Publishing.

- Wei, A. P., Peng, C. L., Huang, H. C., & Yeh, S. P. (2020). Effects of corporate social responsibility on firm performance: does customer satisfaction matter?. *Sustainability*, 12(18), 7545.
- Welford, R. (2007). Corporate governance and corporate social responsibility: Issues for Asia. *Corporate Social Responsibility and Environmental Management*, 14(1), 42-51.
- Wheeler, S. M., & Beatley, T. (2014). Urban sustainability at the city and regional scale. In *The sustainable urban development reader* (pp. 531-562). Routledge.
- Wongthongchai, J., & Saenchaiyathon, K. (2019). The key role of institution pressure on green supply chain practice and the firm's performance. *Journal of Industrial Engineering and Management (JIEM)*, 12(3), 432-446.
- Wood, D. J. (1991). Corporate social performance revisited. *Academy of management review*, 16(4), 691-718.
- Xue, M., Boadu, F., & Xie, Y. (2019). The penetration of green innovation on firm performance: Effects of absorptive capacity and managerial environmental concern. *Sustainability*, 11(9), 2455.
- Yang, M., Bento, P., & Akbar, A. (2019). Does CSR influence firm performance indicators? Evidence from Chinese pharmaceutical enterprises. *Sustainability*, 11(20), 5656.
- Ye, N., Kueh, T. B., Hou, L., Liu, Y., & Yu, H. (2020). A bibliometric analysis of corporate social responsibility in sustainable development. *Journal of Cleaner Production*, 272, 122679.
- Yin, D., Ming, X., & Zhang, X. (2020). Sustainable and smart product innovation ecosystem: An integrative status review and future perspectives. *Journal of Cleaner Production*, 274, 123005.
- Yu, H., Shabbir, M. S., Ahmad, N., Ariza-Montes, A., Vega-Muñoz, A., Han, H., ... & Sial, M. S. (2021). A contemporary issue of micro-foundation of CSR, employee pro-environmental behavior, and environmental performance toward energy saving, carbon emission reduction, and recycling. *International Journal of Environmental Research and Public Health*, 18(10), 5380.
- Yu, C. H., Wu, X., Zhang, D., Chen, S., & Zhao, J. (2021). Demand for green finance: Resolving financing constraints on green innovation in China. *Energy Policy*, 153, 112255.
- Yusoff, H., Mohamad, S. S., & Darus, F. (2013). The influence of CSR disclosure structure on corporate financial performance: Evidence from stakeholders' perspectives. *Procedia Economics and Finance*, 7, 213-220.
- Zhao, Z. Y., Zhao, X. J., Davidson, K., & Zuo, J. (2012). A corporate social responsibility indicator system for construction enterprises. *Journal of cleaner production*, 29, 277-289.

- Zhou, G., Zhang, L., & Zhang, L. (2019). Corporate social responsibility, the atmospheric environment, and technological innovation investment. *Sustainability*, 11(2), 481.
- Zhu, W., Chew, I. K., & Spangler, W. D. (2005). CEO transformational leadership and organizational outcomes: The mediating role of human–capital-enhancing human resource management. *The leadership quarterly*, 16(1), 39-52.

# KNUST



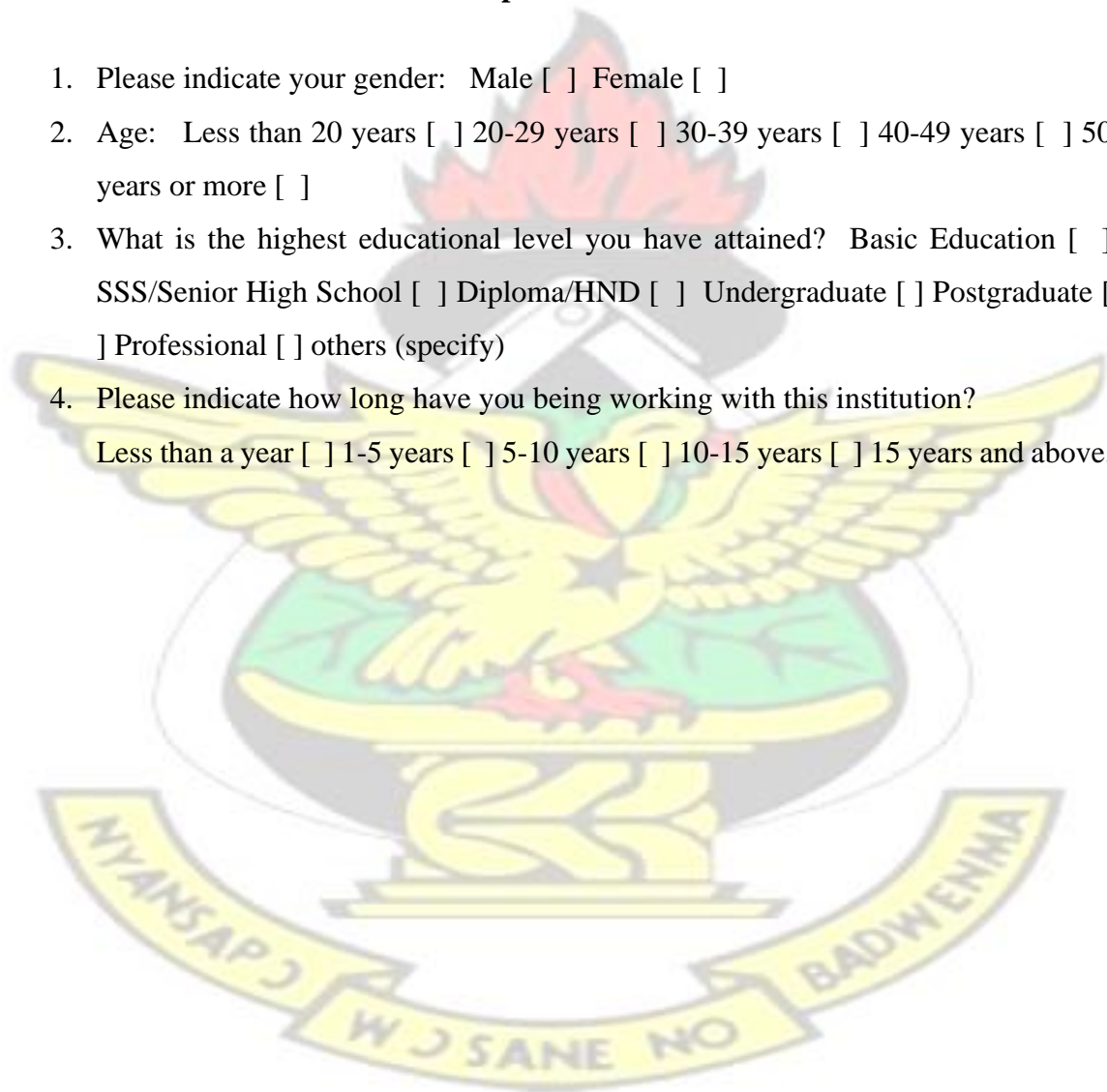
# KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

## QUESTIONNAIRE

The researcher is conducting a study on the effect of **CSR on organizational performance. The mediating role of green innovation.** All data held are purely for research purposes and will be treated as strictly confidential. Kindly tick [✓] in the spaces provided. Thank you.

### PART A: General Information of Respondents

1. Please indicate your gender: Male [ ] Female [ ]
2. Age: Less than 20 years [ ] 20-29 years [ ] 30-39 years [ ] 40-49 years [ ] 50 years or more [ ]
3. What is the highest educational level you have attained? Basic Education [ ] SSS/Senior High School [ ] Diploma/HND [ ] Undergraduate [ ] Postgraduate [ ] Professional [ ] others (specify)
4. Please indicate how long have you being working with this institution?  
Less than a year [ ] 1-5 years [ ] 5-10 years [ ] 10-15 years [ ] 15 years and above.





## SECTION B: CSR

Please indicate the extent to which you agree with the following statements using the assigned Likely scale ratings of 1-7, where: 1 = strongly disagree, 7 = strongly agree.

No	Consumer	1	2	3	4	5	6	7
	Our company respects consumer rights beyond the legal requirements							
	Our company provides full and accurate information about its products to its customers							
	Customer satisfaction is highly important for our company							
	<b>Employee</b>							
	Our company policies encourage the employees to develop their skills and careers							
	The management of our company is primarily concerned with employees' needs and wants							
	Our company implements flexible policies to provide a good work & life balance for its employees.							
	<b>Environment</b>							
	Our company participates in activities which aim to protect and improve the quality of the natural environment							
	Our company implements special programs to minimize its negative impact on the natural environment							
	Our company carry out periodic natural environment audits							
	Our company pay attention to environmental							
	The impact of green innovation on manufacturing small and medium enterprises corporate social responsibility fulfillment: The moderating role of regional environmental regulation							

### SECTION C: Green innovation

Please indicate the extent to which you agree with the following statements using the assigned Likely scale ratings of 1-7, where: 1 = strongly disagree, 7 = strongly agree.

No	Green product innovation	1	2	3	4	5	6	7
1	Modifications of product design in order to not using toxic compounds within production process							
2	Product design reformations aimed to improve energy efficiency during usage							
3	Product packaging with decomposable materials for lower disposal environmental impact							
4	Carefully consider whether the product is easy to recycle, reuse, and decompose for product design							
	<b>Green process innovation</b>							
5	The environmental improvement of products reduces pollutants or hazardous materials within the production process							
6	The environmental improvement of the product has reduced soil, water quality, noise, and air pollution within the production process							
7	The environmental enhancement of the product leads to a reduction in energy use within the production process							
8	The environmental contribution of the product leads to improved recyclability within the production process							

## SECTION D: FIRMS PERFORMANCE

Please indicate the extent to which you agree with the following statements using the assigned Likely scale ratings of 1-7, where: 1 = strongly disagree, 7 = strongly agree.

No	firm performance	1	2	3	4	5	6	7
1	My firm is stronger growth in sales revenue							
2	My firm has better able to acquire new customers							
3	My firm has a greater market share							
4	My firm is able to increase sales to existing customers							
5	My firm is more profitable							
6	My firm has a better return on investment							
7	My firm is better able to reach financial goals							
8	Our firm has improved in its customer service level.							
9	Our firm has improved its overall product quality.							
10	Our firm has improved in delivery dependability.							

