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**Environment and Sustainable
Development Program**

Examining the Relationship between Green Banking Initiatives and Financial Performance of Banking Sector in the Kingdom of Bahrain

A Thesis Submitted in Partial Fulfilment of the Requirements for the
Ph.D.Degree in Environment and Sustainable development

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- ☒ After making the modifications attached with this decision.

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Abstract

This thesis explores the intricate relationship between green banking initiatives, Environmental, Social, and Governance (ESG) factors, and financial performance within Bahrain's banking sector. The primary objective is to explain how green banking practices and ESG considerations influence banks' financial outcomes directly and through the mediating effect of green banking's perceived value.

The research employs a robust quantitative methodology, leveraging Structural Equation Modeling with Partial Least Squares (SEM-PLS) to analyze data collected from 198 banking professionals in 14 banks operating in Bahrain via a structured questionnaire. This sophisticated approach enables examining multiple relationships between variables and assessing both direct and indirect effects.

The study's originality stems from its comprehensive examination of green banking initiatives within the specific context of Bahrain, a nation actively pursuing sustainable development goals. It also introduces the concept of green banking perceived value as a mediating factor, offering fresh insights into how customer perceptions influence the relationship between green practices and financial performance.

The findings reveal a detailed picture of green banking's impact in Bahrain. Environmental performance, social performance, governance, environmental policies and goals, and green processes and procedures influence banks' financial performance. Interestingly, green lending and green products/services do not demonstrate a direct significant impact on financial performance. The study also uncovers the crucial mediating role of green banking's perceived value in the relationship between certain green initiatives and financial performance, underscoring the importance of customer perceptions. Moreover, the research indicates a high level of implementation across various green banking initiatives and ESG factors in Bahrain's banking sector.

Based on these findings, the study recommends that banks prioritize initiatives showing direct positive impacts on financial performance while continuing to develop others for long-term benefits. It emphasizes the need for increased focus on communicating green initiatives to enhance customer-perceived value. Developing new metrics to capture green banking initiatives' long-term and indirect benefits is also suggested. The study provides valuable insights that can help develop procedures promoting sustainable

banking practices. It is an attempt to contribute to the growing knowledge of sustainable finance. It offers practical implications for banking professionals and management in Bahrain and beyond, smoothing the way for more sustainable and financially viable banking practices in the region.

Dedication

I dedicate this Ph.D. thesis to my beloved parents, whose love, support, and belief have been my greatest strength.

My mother and my father

This work is as much yours as it is mine.

Mohamed Al Abdulla

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I extend my heartfelt appreciation to those whose unwavering support and encouragement have made completing this Ph.D. journey possible.

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Abbreviations

The following abbreviations are frequently employed throughout the thesis during discussions, explanations, and the analysis and interpretation of data.

Abbreviations Used	Full Form
AVE	Average Variance Extracted
BAB	Bahrain Association of Banks
BFP	Bank's Financial Performance
CBB	Central Bank of Bahrain
CR	Composite Reliability
CSR	Corporate Social Responsibility
D ULS	Unweighted least squares Distance
EP	Environmental Performance
EPG	Environmental policies and goals
ESG	Environmental, Social, and Governance
GBI	Green Banking Initiatives
GF	Green Financing
GL	Green Lending
GoF	Goodness of Fit
GOV	Governance
GP	Green Policies
GPP	Green processes and procedures
GPR	Green Projects
GPS	Green Products\Services
GPS	Green Products and Services
GPV	Green Perceived Value
GRM	Green Risk Management
MENA	Middle East and North Africa
MNCs	Multinational Corporations
MS	Market Share
ROA	Return on Assets
ROE	Return on Equity
SD	Standard Deviation
SDGs	Sustainable Development Goals
SEM-PLS	Structural Equation Modeling- Partial Least Squares
SIBF	Sustainable Islamic Business and Finance
SP	Social Performance
SRMR	standardized root mean square residual
STEEP	Social, Technological, Economic, Environmental, and Political
UNEP	United Nations Environment Programme
VIF	Variance Inflation Factor

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Chapter 1: Introduction

1.1 Research Background

Green initiatives, also known as green banking, are a significant development that has captured the interest of both researchers and banks. These initiatives ensure that banks finance environmentally responsible industries and businesses, safeguarding our environment (Shaumya & Arulrajah, 2017). While the full-scale adoption of green initiatives by banks has not yet materialized as expected, it is essential to note that green banking is gaining traction globally, even in developing nations (Bouteraa et al., 2022).

Bahrain's economy is characterized by its strategic position as a financial hub in the Gulf region. As of 2024, the kingdom maintains a diversified economy with a GDP of approximately \$44.4 billion, with the financial services sector contributing about 17% to GDP. The banking sector holds particular significance, representing about 85% of total financial sector assets. (CBB, 2023) This economic framework has supported Bahrain's transition toward sustainable development, including adopting green banking practices. The kingdom's commitment to achieving net-zero carbon emissions by 2060 has further emphasized the importance of sustainable financial practices, making the banking sector a crucial player in this transformation.

The Central Bank of Bahrain (CBB), established in 1973, has evolved from its initial role as the Bahrain Monetary Agency to become the single integrated regulator of Bahrain's financial sector. Throughout its history, the CBB has played a pivotal role in developing Bahrain's financial industry, particularly in promoting Islamic banking and, more recently,

sustainable finance initiatives. It was formally established in 2006 as the Central Bank of Bahrain under the Central Bank of Bahrain and Financial Institutions Law (CBB Law). The CBB's regulatory framework has continuously adapted to emerging trends, including ESG reporting guidelines in 2022 and various initiatives to promote sustainable banking practices (CBB, 2022).

Green banking holds particular importance in Bahrain's context for several reasons. First, as a Gulf nation traditionally dependent on hydrocarbon revenues, Bahrain's transition to sustainable finance aligns with its economic diversification strategy (Abdulla et al., 2020). Second, the kingdom's commitment to Environmental, Social, and Governance (ESG) principles has made green banking a crucial tool for achieving its sustainability goals (Central Bank of Bahrain, 2024). The Central Bank of Bahrain's 2022 ESG reporting guidelines demonstrate this commitment, making Bahrain one of the first Gulf countries to implement such comprehensive sustainable finance frameworks (CBB Bahrain, 2022). Additionally, green banking initiatives support Bahrain's National Energy Efficiency Action Plan and its pledge to achieve net-zero carbon emissions by 2060, positioning the banking sector as a key facilitator of sustainable development (SCE Bahrain, 2020)."

In Bahrain's unique financial landscape, Islamic and conventional banks operate under a dual banking system. Islamic banks, comprising approximately 24% of total banking assets (Central Bank of Bahrain, 2024), operate according to Shariah principles that align with sustainable and ethical practices. These principles prohibit excessive speculation and require investments to benefit society, naturally complementing green banking initiatives (Otman, 2022). While not bound by Shariah law, conventional banks have adopted similar sustainable practices through

ESG frameworks (Abdulla & Naser, 2021). This dual system reflects Bahrain's cultural heritage while embracing modern sustainable finance practices, creating a distinctive model where religious values and environmental consciousness converge (Bahrain Economic Development Board, 2022). The cultural impact is evident in how both banking types have adapted green initiatives to meet local needs while maintaining their respective operational frameworks (Ebrahim et al., 2021).

Beyond traditional and Islamic banks, Bahrain's financial sector includes specialized institutions complementing banking functions. These include investment companies, financing companies, and microfinance institutions (Central Bank of Bahrain, 2024). However, unlike some Western markets, Bahrain does not have a significant presence of credit unions. Instead, the banking sector's functions are primarily carried out by licensed conventional and Islamic banks, regulated investment companies, and specialized government-backed institutions like the Bahrain Development Bank (BDB) (Bahrain.bh, 2024). This structure reflects Bahrain's focused approach to financial sector development, emphasizing strong regulatory oversight while maintaining diversity in financial services (Ali & Oudat, 2021)."

Integrating green initiatives in banks is a complex process, not without challenges. Environmental concerns like climate change and degradation pose substantial credit and market risks in the finance and banking sectors. Disruptions in supply chains and harm to traders and their clients can lead to credit defaults, escalating the default rate and financial transaction costs (Nguyen et al., 2021).

Thus, it is possible to infer that banks can play a leading role in supporting environmental sustainability by implementing green initiatives; at the same time, research outcomes show that banks could be financially

affected by those initiatives. For instance, literature shows that offering loans to eco-friendly firms can result in lower risk-taking on the part of banks and encourage the development of innovative projects (Batae., et al., 2021; Gangi et al., 2019).

Consequently, it can be posited that a bank can enhance its reputation by refusing loans to polluting firms and reducing risk-taking. However, this process necessitates an assessment of a loanee's environmental performance, and the subsequent risk analysis can lead the bank to incur additional costs, potentially impacting the bank's profitability (Batae., et al., 2021). Therefore, it becomes apparent that introducing green initiatives can yield positive and negative effects on the financial performance of banks. Banks must accord environmental sustainability the status of a critical aspect. However, the reasons behind the contradictory outcomes that a bank may face while implementing green finance initiatives have not been extensively studied (Caby et al., 2021).

In addition, green initiatives are affected by sustainability factors, namely environmental, social, and governance (ESG) factors. Also termed Corporate Social Responsibility (CSR) of firms, ESG factors affect the environmental performance of banks and, hence, their profitability in the extant literature (Kim & Kim, 2010).

When the CSR of banks was implemented, it was seen on certain occasions that it produced negative performance on the part of banks (Rahim, 2020). For instance, more disclosure by banks regarding their environmental products and services can negatively impact CSR funding as customers may believe that they are being greenwashed, leading to a lack of trust of customers on the banks' true motive in protecting the environment. This lack of motives, in turn, could lead to the problem of customers turning away from depositing money in the bank, affecting the

bank's financial performance. Thus, while CSR affects green banking (green finance initiatives) and financial performance, there is no clarity on overcoming such issues (Moufty., et al., 2021). While banks are shown to play an essential role in contributing to the economy, it is also seen that banks can play a positive role in reducing environmental challenges. However, it is seen from the previous discussion that such role play can affect the banks' financial performance. There is a need to understand why this happens and how to arrest this phenomenon by identifying the factors that could be used to predict the financial performance of banks that would like to implement green finance banking. This research investigates this phenomenon in the context of banks in the Kingdom of Bahrain, a high-income nation with a growing focus on sustainable development.

This study draws upon several theoretical perspectives to understand the relationships between ESG sustainability factors, green banking initiatives, green banking perceived value, and financial performance. One critical theory is stakeholder theory, which posits that organizations should consider the interests of all stakeholders, including shareholders, employees, customers, suppliers, and the broader community, in their decision-making processes (Freeman & Mcvea, 2001). This theory suggests that banks that adopt ESG factors and green banking initiatives may be better positioned to meet the expectations of various stakeholders, leading to enhanced perceived value and financial performance.

Another relevant theoretical perspective is legitimacy theory, which states that organizations align their actions with societal norms and values to maintain legitimacy and secure access to resources (Suchman, 1995). In the context of green banking, legitimacy theory suggests that banks that engage in environmentally and socially responsible factors may be

perceived as more legitimate by stakeholders, leading to improved reputation, customer loyalty, and financial performance.

In addition to stakeholder theory and legitimacy theory, this study also considers institutional and contingency theories. Institutional theory posits that organizations are influenced by their institutional environment, which consists of regulatory, normative, and cultural-cognitive elements (Scott, 2014). This theory suggests that banks may adopt green banking factors to conform to institutional pressures and gain legitimacy. Contingency theory, on the other hand, argues that there is no one best way to manage an organization and that the optimal approach depends on the specific situation and context (Donaldson, 2001). In the context of green banking, contingency theory suggests that the effectiveness of green banking initiatives may depend on various contextual factors, such as the bank's size, market conditions, and regulatory environment.

Despite the growing interest in sustainable finance and green banking, there is limited research on how ESG factors and green banking initiatives influence financial performance, particularly in Bahrain and the MENA region. While some studies have investigated the direct relationships between these variables (e.g., Javaid & Al-Malkawi, 2018; Platonova et al., 2018), there is a lack of research on the potential mediating role of green banking perceived value in these relationships.

1.2 Research Problem

Green banking is considered an essential part of banks' business activities, although it is not implemented in many countries (Chowdhury, 2023). Lack of participation by banks in the environmental protection efforts of nations could lead to increased problems like environmental pollution and climate change. Because the primary business interest of banks is to be profitable, some concerns point out that implementing green

finance initiatives in banks could affect the profitability of banks. This implies that if banks have to implement green initiatives, then there is a possibility that those banks can be negatively affected concerning their profitability. Factors like return on assets (ROA), return on equity (RoE), and market share, which indicate the financial performance of banks, can be used to know the influence of green finance initiatives on the financial performance (Caby et al., 2021, Chowdhury, 2023).

In addition, it is essential to know whether banks' green finance initiatives can be sustained over time. Sustaining green initiatives has been difficult for many banks, as the potential negative impact of these initiatives could discourage them. According to Gupta (2015), some challenges affecting banks in sustaining green initiatives include green technology, which is essential for environmental protection and can be expensive and negatively affect banks' profitability. Building organizational capacity by training employees to manage green initiatives can be time-consuming and costly. Moreover, governance presents challenges, as green banking is a relatively new concept. Stakeholders need to be made aware of its importance, and a lack of awareness might temporarily reduce customer trust in banks until the concept becomes more widely accepted and understood (Gupta, 2015).

One of the factors that is considered to be causing this problem of sustainability of green finance initiatives is the ESG of banks (Kim & Kim, 2010). Current knowledge in the literature does not seem to comprehensively address the challenges banks face in predicting the financial performance of banks using sustainable green financing initiatives. Not many research publications have been found that have linked banks' ESG factors to green finance initiatives and their financial performance, especially in countries like Bahrain, necessitating further

investigation in this area as these are knowledge gaps found in the literature. In Bahrain, businesses are usually expected to resist the implementation of green initiatives because they think it will negatively affect their financial performance.

This study aims to address this knowledge gap by investigating the extent to which green banking perceived value mediates the relationship between ESG sustainability factors, green banking initiatives, and financial performance in the context of Bahraini banks. By examining these relationships, this research contributes to a more detailed understanding of the complex interplay between these variables. It provides valuable insights for banks and other stakeholders in Bahrain and the MENA region.

1.3 Research Aim and Objectives

This study aims to investigate the direct impact of ESG sustainability practices and green banking initiatives on the financial performance of banks in Bahrain and the mediating role of green banking's perceived value in these relationships. The research objectives for this study are as follows:

1. To identify and assess green finance initiatives and ESG that banks have adopted.
2. To investigate the direct relationship between ESG sustainability factors (environmental performance, social performance, and governance), green finance initiatives (environmental policies and goals, green lending, green products and services, and green processes and procedures), and the financial performance of banks.
3. To investigate the mediating role of green banking's perceived value in the relationships between ESG sustainability practices, green banking initiatives, and the financial performance of banks in Bahrain.

1.4 Research Questions

The research problems identified above give rise to the definition of the following research questions:

1. What green finance initiatives and ESG have banks in Bahrain adopted, and at what level of importance?
2. How do ESG sustainability practices (environmental performance, social performance, and governance) and green banking initiatives (environmental policies and goals, green lending, green products and services, and green processes and procedures) directly influence the financial performance of banks in Bahrain?
3. To what extent does green banking perceived value mediate the relationship between ESG sustainability practices (environmental performance, social performance, and governance), green banking initiatives (environmental policies and goals, green lending, green products and services, and green processes and procedures), and the financial performance of banks in Bahrain?

1.5 Research Hypothesis

This study aims to test the following set of hypotheses, exploring the relationships between green banking initiatives, Environmental, Social, and Governance (ESG) factors, and financial performance within the banking sector. Additionally, we will examine both direct relationships and mediating relationships involving Green Banking's perceived value.

Direct relationships:

H1: The bank's Environmental performance directly influences the bank's financial performance.

H2: The social performance of the bank directly influences the bank's financial performance.

H3: The bank's governance directly influences the bank's financial performance.

H4: Environmental policies and goals of the bank directly influence the bank's financial performance.

H5: Green lending directly influences the bank's financial performance.

H6: Green products and services of the bank directly influence the bank's financial performance.

H7: Green processes and procedures of the bank directly influence the bank's financial performance.

Mediating relationships:

H8: Green banking's perceived value mediates the relationship between environmental performance and financial performance.

H9: Green banking's perceived value mediates the relationship between social and financial performance.

H10: Green banking perceived value mediates the relationship between governance and the bank's financial performance.

H11: Green banking's perceived value mediates the relationship between environmental policies and goals and the bank's financial performance.

H12: Green banking's perceived value mediates the relationship between green lending and the bank's financial performance.

H13: Green banking's perceived value mediates the relationship between green products and services and the bank's financial performance.

H14: Green banking's perceived value mediates the relationship between green processes and procedures and the bank's financial performance.

The hypotheses are interconnected in several ways. H1-H3 examines how core ESG factors directly influence financial performance. H4-H7 investigate how specific green banking practices impact financial performance. H8-H14 explores how these relationships are mediated through green banking's perceived value. This structure allows us to understand both the direct effects and the mediating role of customer perceptions in translating green initiatives into financial outcomes.

1.6 Research Significance

This study contributes both theoretically and practically to sustainable banking. Theoretically, it advances understanding of how ESG practices and green initiatives affect financial performance through direct and indirect pathways. It provides actionable insights for banks to optimize their sustainability initiatives while maintaining financial viability.

Moreover, this study holds significant implications for theory and practice in green banking and sustainable finance in Bahraini banks. From a theoretical perspective, this research contributes to the growing literature on the relationship between ESG sustainability practices, green banking initiatives, and financial performance. By investigating the mediating role of green banking's perceived value of Bahraini bank stakeholders, this study offers a novel approach to understanding the complex interplay among these variables, extending the existing knowledge in the field.

Furthermore, this research is significant for other bank stakeholders in Bahrain. By shedding light on the relationships among ESG factors, green banking initiatives, perceived value, and financial performance, this study can inform the development of policies and regulations that promote sustainable finance and support the country's transition towards a greener economy (Central Bank of Bahrain, 2020).

For banks, the insights into the impact of ESG sustainability practices and green banking initiatives on financial performance can guide strategic decision-making and resource allocation. The study's findings can also assist banks in developing and implementing effective green banking strategies that enhance their perceived value and, ultimately, their financial performance.

Additionally, this research addresses the call for more context-specific research on green banking and sustainable finance. By focusing on the Kingdom of Bahrain, this research provides valuable insights into the dynamics of green banking in a specific socio-economic and environmental setting, contributing to a clearer understanding of the topic.

Research Structure

The research structure encompasses five comprehensive chapters, each fulfilling distinct roles in presenting the study. The first chapter establishes the foundational elements of the research, providing a thorough background, delineating the aims and objectives, explaining the research hypothesis, and outlining the research questions that guide the investigation.

Moving into the second chapter, readers encounter an extensive literature review on the topic. This section delves into relevant theories, concepts, and frameworks while examining theoretical perspectives from various authors and scholars. The literature review draws from diverse sources, including books, journals, and other credible professional publications. Particular emphasis is placed on empirical studies from professional journal publications directly related to the research topic.

The third chapter transitions into the research study's practical methodology, detailing the researcher's methodological approach. This section comprehensively outlines the data collection methods and analytical techniques, including the SEM-PLS methodology, sampling procedures, and specific approaches to examine relationships between study variables.

The fourth chapter focuses on the presentation and analysis of collected data, incorporating visual representations through charts and graphs accompanied by detailed explanations. This section culminates in presenting, testing, and discussing the research hypotheses, providing statistical analysis and interpretation of the relationships between green banking initiatives and financial performance.

The fifth and final chapter synthesizes the overall conclusions and findings while presenting recommendations for identified stakeholders. This chapter draws comparisons between the study's findings and similar research conducted by other scholars, highlighting similarities and differences. Additionally, it outlines the research's theoretical and practical contributions while suggesting potential avenues for future investigation in sustainable banking. The chapter acknowledges limitations and proposes directions for continued research in this field.

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Chapter 2: Literature Review

2.1 Introduction

This chapter critically reviews the literature concerning the core issue of the performance of banks that have adopted green banking initiatives. The literature shows no consensus among researchers on whether adopting green banking initiatives can translate into improved financial performance of banks (Bose et al., 2021; Bouteraa et al., 2022; Ng, 2016). While there is growing interest and demand for implementing green banking initiatives in banks, challenges hinder such initiatives (Gupta, 2015). There is a need for banks to understand and overcome those challenges to implement green initiatives successfully. Literature shows various factors contribute to these challenges (Shaumya & Arulrajah, 2017). Those factors need to be determined and linked to the financial performance of banks so that it is possible to control those factors and enable banks to implement green banking initiatives without any challenges.

Some of the essential factors that act as challenges include sustainability factors, namely environmental (E), social (S), governance (G) (Daniel, 2023; Malsha et al., 2020; Yuan & Cao, 2022), environmental policies and goals, green lending, green products, and services, green processes and procedures (Malsha et al., 2020), and green banking perceived value (Doszhanov & Ahmad, 2015). This research focuses on the central issue of the financial performance of banks that are affected by the implementation of green banking initiatives. The researcher identified two critical areas for investigation as part of the study's focus. The first is Environmental, Social, and Governance (ESG) factors, which have been widely discussed in the literature as having significant impacts on various aspects of banking and finance (Daniel, 2023; Malsha et al., 2020; Yuan &

Cao, 2022). The second is green banking initiatives, which have gained prominence in the banking sector as a response to environmental concerns and sustainability goals (Doszhanov & Ahmad, 2015; Malsha et al., 2020).

While many other impediments could affect the implementation of green banking initiatives and their influence on banks' financial performance, this research restricts the literature review to the components mentioned above, which are provided in the following sections. Before reviewing the literature on the abovementioned factors, a brief discussion of green banking is provided next.

There is currently an extensive amount of literature available in the form of books, published journals, reports, and other professional publications that describe the concept, growth, and evolution of green banking over the past decades. The researcher in this study adopted various sources to present the literature review and the study's theoretical framework. This study's primary source of information is peer-reviewed journal articles listed in several recognized international journals.

This literature review initiates with a discussion on the definition and concept of green banking and financial performance, along with the general theoretical framework adopted for this study. The discussion then progresses to the previous theoretical attempts that explain the concept of green banking and how it has improved in relevance and popularity over the past decades. The next section of the literature review includes previous empirical studies that have been presented on green banking and financial performance. Lastly, this literature review concludes with a discussion on the gap identified in the current literature, emphasizing the need for further research in this area, followed by a chapter summary.

Green banking is one of the many areas where a market-based approach to environmental policy is utilized. It is sometimes also referred to as

sustainable banking. The policy is designed to incorporate environmental criteria into credit management policies to influence the behavior of private banks and their clients in ways consistent with sustainable development and enhancing environmental quality. It acknowledges that sustainable long-term growth and development depend upon the maintenance and improvement of environmental resources and their contribution to the mitigation of global and local environmental issues. The policies also seek to improve the ecological efficiency of credit provisions to attain the optimum resource allocation for economic development that will be both environmentally friendly and sustainable (Park & Kim, 2020).

The primary aim of this research is to evaluate the financial performance of green banks and their initiatives, thereby establishing the correlation between the environmental and financial sectors. A borrower's motivation can be driven by either a desire to improve a firm's efficiency or to reduce the cost of compliance with increasingly stringent environmental regulations. Banks and their policies will apply only in the second case. Therefore, the effectiveness of green bank policies in affecting the environmental quality of firms in the industrial sector and other sectors depends on the relative stringency power of those policies (Lamperti et al., 2021). This research is crucial in understanding the role of green banking in the financial sector and its potential impact on environmental sustainability.

2.2 Banking Sector in Bahrain

Banking in Bahrain has a rich history dating back to 1921, when the first commercial bank was established. The sector has grown significantly, with the Central Bank of Bahrain (CBB) established in 1973 to regulate financial institutions. Today, Bahrain is recognized as a key financial hub

in the Gulf region, hosting over 365 financial institutions, including conventional and Islamic banks (Central Bank of Bahrain, 2024).

As of 2023, Bahrain's diverse banking landscape comprises Islamic and conventional banks holding up to 85% of the total financial assets. As of 2024, there are 22 conventional banks, 7 Islamic banks, and 55 wholesale banks (Bahrain.bh, 2024). The sector plays a crucial role in the nation's economy, contributing approximately 17% to Bahrain's GDP (Central Bank of Bahrain, 2023). Notably, Bahrain has established itself as a leader in Islamic finance, with Islamic banking assets accounting for over 20% of total banking assets (Bahrain Economic Development Board, 2022). To ensure the sector's stability and resilience, the CBB has implemented Basel III regulations (Central Bank of Bahrain).

Looking closely at the banking sector of Bahrain, it is evident that it has performed a significant role in booming the financial industry in recent years. The banking sector in Bahrain continues to demonstrate significant growth and strength. According to the Central Bank of Bahrain's Annual Report 2023, the banking system's total assets reached 218.3 billion Bahraini Dinars (approximately 579 billion US dollars) by the end of 2023. This figure represents more than 14 times Bahrain's annual GDP, showcasing the sector's substantial size relative to the national economy. The report highlights that Bahrain maintains its position as a key financial hub in the region, supported by a robust regulatory framework and a skilled workforce.

This environment continues to attract regional and international financial institutions to establish and expand their operations there. However, as a small economy with only a population of 1.5 million, there is a possibility of tough competition among the banks. In a way, this leads towards underlining the need for banks to highlight how they can effectively work to enhance their financial performance to sustain strategically. Ideally, this

is not necessarily restricted to looking at the kind of competitive financial products and services they could offer but also towards work practices and policies that are empirically proven to have a considerable impact on organizational outcomes, mainly on financial performance.

The Central Bank of Bahrain has been actively promoting sustainability practices in the financial sector, as reflected in its recent publications and regulatory updates. For instance, the CBB's Financial Stability Report from March 2024 discusses various aspects of the financial sector's performance and stability, which may include sustainability considerations (Central Bank of Bahrain, 2024). The Bahrain Bourse took a significant step in 2020 by launching an ESG Reporting Guide for listed companies, further promoting sustainability disclosure in the financial sector (Bahrain Bourse, 2020). Bahrain Bourse has also been actively promoting sustainability in the capital markets, as reflected in its recent publications and regulatory updates. For instance 2023, Bahrain Bourse participated in the 28th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP28) in Dubai, UAE, demonstrating its commitment to sustainable capital markets and engagement with relevant stakeholders (Bahrain Bourse, 2023).

Individual banks in Bahrain have begun implementing various green banking initiatives. These include paperless banking operations, offering green loans, and financing renewable energy projects (Abdulla et al., 2020). For instance, the National Bank of Bahrain (NBB) has introduced a "Sustainability Financing" program that offers preferential rates for environmentally-friendly projects (National Bank of Bahrain, 2021).

While these developments indicate growing awareness and action towards environmental issues in Bahrain's banking sector, there remains considerable potential for further integration of sustainability practices into

banking operations. The sector's continued evolution will support Bahrain's transition to a more sustainable economy.

2.3 Green Banking

The spirit of conservation and environmental concern drives the expectations of the banking system. An industry that finances developmental projects across all sectors of the economy may cause more harm to the environment than good. Thus, the banking industry may have to change its course to sustain the development process without causing any damage to the environment. Green banking becomes a means to an end where the end is sustainable global economic development. It is a framework to integrate sustainability concerns into all banking operations to deliver enhanced value to stakeholders (Zhang et al., 2022).

Saeed & Mansor (2021) define green banking as promoting environmentally friendly investments and concern for developing a clean and safe society, which is integrated into all business dealings with stakeholders at both micro and macro levels through various green processes and procedures, but Park & Kim, (2020) define green banking as more than supporting environmentally friendly projects; it is about banks proactively promoting sustainable development through responsible banking practices. Banks can significantly impact by gradually aligning their values and ethos with environmental responsibility.

The concept of green banking drives environmental performance and is linked to the concerns of stakeholders, including climate change, deforestation, and environmental pollution (Aftab et al., 2022; Cheng et al., 2017; Tariq et al., 2021; Ullah et al., 2022). While these concerns have reverberated worldwide, it was not evident in the literature how green banking can be initiated in banks, as they do not directly contribute to climate change, environmental pollution,

or deforestation through manufacturing (Kraus et al., 2020). However, researchers argue that banks can introduce green initiatives supporting sustainability (Shaumya & Arulrajah, 2017).

Bai (2011) defines green banking as "environmentally friendly banking and a set of practices and responsibilities that establishes a business being ecologically friendly." Tara et al. (2015) define it as "banking activities that are concerned with the environment and provide financing to green businesses involved in environmental restoration. Sangiseti and Venkata (2022) describe it as "a set of environmentally friendly investments and activities undertaken by banking organizations in the form of operational improvements, technology adoption, and promoting environmentally friendly practices that aid in the achievement of reduced carbon footprint and promotes the achievement of sustainable development goals.

Green banking offers substantial benefits to financial institutions and their clientele. It reduces operational costs through adopting digital technologies and environmentally friendly practices, enhances customer experience, and reinforces banks' competitiveness (Brunetti et al., 2023). It also minimizes paper usage, aligns with environmental sustainability goals, and offers customers convenient and secure digital services.

However, financial institutions pursuing green banking also face challenges. The initial investment required can be substantial, and regulatory hurdles may need to be overcome (Brunetti et al., 2023). Elevated operational expenditure, reputational risk, diversification problems, and the nascent nature of green banking pose additional challenges that require a concerted effort from banks and stakeholders.

Green banking is an innovative system that protects the environment and serves society for a healthier life. It utilizes the financial sector to attain sustainable development that balances economic development and

environmental quality (Almeer & Almaamari, 2022). It has gained importance over the past decade due to the need felt within the global banking sector to introduce sustainable initiatives that aid in achieving sustainable development goals (SDGs) (Meena, 2013).

Green banking initiatives can positively and negatively impact banks' financial performance (Karyani & Obrien, 2020). The cost of implementing these initiatives may reduce profitability or revenue, thus affecting their operations and competitiveness. However, there are also advantages, such as a possible positive relationship between green banking initiatives and corporate environmental and financial performance (Ambec & Lanoie, 2008), enhanced innovation, management, and organizational and operational efficiency (Zhou et al., 2020), and improved brand image and customer loyalty (Chen, 2010)

Green banking is a crucial concept that integrates environmental concerns into banking operations to promote sustainable development. While it offers benefits such as cost reduction, enhanced customer experience, and improved competitiveness, it also poses challenges that require a collaborative effort from stakeholders to address.

2.4 Theoretical Framework

The relationship between green banking initiatives and financial performance is complex and multifaceted, requiring multiple theoretical lenses to be fully understood. This study integrates four complementary theories - stakeholder theory, legitimacy theory, institutional theory, and contingency theory - to create a comprehensive framework for examining how green banking initiatives influence financial performance both directly and through perceived value.

These theories collectively shape the study's focus in several ways. First, stakeholder theory (Freeman, 1984) provides the foundation for understanding why banks engage in green initiatives beyond pure profit motives. It suggests that banks must balance the interests of multiple stakeholders, including environmentally conscious customers, regulators, investors, and society at large. This theory helps explain why banks might invest in green initiatives even when the immediate financial returns are uncertain, shaping our hypothesis about the mediating role of perceived value in the relationship between green initiatives and financial performance.

Legitimacy theory (Suchman, 1995) complements this by explaining how banks use green initiatives to maintain their social license to operate. In the Bahraini context, where sustainability is increasingly emphasized in national policy (Central Bank of Bahrain, 2022), this theory suggests that banks adopt green practices not just for direct financial gain but to align with societal expectations and maintain legitimacy. This shapes our hypotheses about the relationship between environmental performance and financial outcomes.

Institutional theory (DiMaggio & Powell, 1983) helps explain why banks within Bahrain might adopt similar green banking practices. It suggests that coercive pressures (like regulations), mimetic processes (copying successful peers), and normative pressures (professional standards) influence the adoption of green initiatives. This theory informs us of how institutional context shapes the relationship between green initiatives and performance.

Contingency theory (Donaldson, 2001) adds another crucial dimension by suggesting that the effectiveness of green banking initiatives may depend on various contextual factors. This shapes our examination of

how different types of green initiatives might have varying impacts on financial performance under different conditions.

Together, these theories suggest that Green banking initiatives affect financial performance through multiple pathways (stakeholder theory); the relationship is influenced by the need for social legitimacy (legitimacy theory), Institutional pressures shape adoption patterns (institutional theory), and The effectiveness depends on contextual factors (contingency theory)

This integrated theoretical framework guides our hypothesis development and shapes our research design. It suggests examining both the direct effects of green initiatives on financial performance and indirect effects through perceived value while considering the institutional context of Bahrain's banking sector.

This theoretical synthesis aligns with recent empirical work in sustainable banking. For example, Bătae et al. (2021) found that stakeholder engagement significantly influences the success of green banking initiatives, while Zhang et al. (2022) demonstrated how institutional pressures shape banks' environmental performance. Our integrated framework extends these findings by considering how multiple theoretical perspectives interact in the specific context of Bahrain's banking sector.

2.4.1 Stakeholder Theory

Stakeholder theory, as proposed by Freeman (1984), posits that organizations should consider the interests of all stakeholders, including shareholders, employees, customers, suppliers, and the broader community, in their decision-making processes. The theory suggests that managers must formulate and implement processes that satisfy all and only

those groups with a stake in the business. The central task in this process is to manage and integrate the relationships and interests of shareholders, employees, customers, suppliers, communities, and other groups to ensure the firm's long-term success. A stakeholder approach emphasizes active business environment management, relationships, and promoting shared interests.

In the context of green banking, this theory suggests that banks adopting ESG factors and green banking initiatives may be better positioned to meet the expectations of various stakeholders, potentially leading to enhanced perceived value and financial performance (Freeman & McVea, 2001). This theory is particularly relevant in explaining why banks might engage in green initiatives beyond immediate financial considerations.

2.4.2 Legitimacy Theory

Legitimacy theory, as discussed by Suchman (1995), argues that organizations seek to align their actions with societal norms and values to maintain legitimacy and secure access to resources. Legitimacy is a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions. When organizations seek legitimacy, the reasons behind their efforts and the way we perceive these endeavors' importance, difficulty, and success may vary based on the criteria used to evaluate them. It is crucial to consider two key distinctions in this context. First, there is a difference between seeking continuity and seeking trustworthiness. Continuity refers to an organization's ability to sustain its existence and operations over time, focusing on survival and stability. Trustworthiness, conversely, pertains to an organization's reliability, integrity, and the degree to which stakeholders can trust its

actions and decisions. The priority to continuity or trustworthiness may depend on the organization's goals and circumstances.

Second, it is essential to distinguish between seeking passive support and seeking active support. Passive support involves stakeholders accepting or tolerating an organization's existence and activities without actively promoting or advocating. In contrast, active support entails stakeholders actively engaging in behaviors that benefit the organization, such as providing positive recommendations, resources, or participation in its initiatives. The type of support an organization aims to achieve can shape its legitimacy-building strategies. Organizations seeking passive support may focus on meeting minimum standards and avoiding negative attention. In contrast, those pursuing active support may need to go the extra mile to engage stakeholders and demonstrate their value.

To effectively assess an organization's legitimacy efforts, it is essential to consider whether it prioritizes continuity or trustworthiness and seeks stakeholders' passive or active support. By considering these distinctions, we can gain a more comprehensive understanding of the organization's objectives and the effectiveness of its legitimacy-building approaches.

In green banking, this theory suggests that stakeholders may perceive banks engaging in environmentally and socially responsible practices as more legitimate, potentially leading to improved reputation, customer loyalty, and financial performance (Deegan, 2002). This theory helps explain why banks might adopt green initiatives even when the immediate financial benefits are unclear.

2.4.3 Institutional Theory

Institutional theory, as developed by DiMaggio and Powell (1983), posits that organizations are influenced by their institutional environment, which consists of regulatory, normative, and cultural-cognitive elements. This theory suggests that banks may adopt green banking initiatives to conform to institutional pressures and gain legitimacy (Scott, 2014). In the context of this study, institutional theory can help explain why banks in Bahrain might adopt similar green banking practices, particularly in response to regulatory changes or industry trends.

2.4.4 Contingency Theory

As discussed by Donaldson (2001) and cited by Shala (2021), contingency theory argues that there is no best way to manage an organization and that the optimal approach depends on the specific situation and context. The theory proposes that the most effective organizational structure, leadership style, and management practices are contingent upon various internal and external factors, such as the organization's size, technology, environment, and overall strategy. The main idea behind contingency theory is that organizations must adapt their structures and processes to fit the unique demands of their environment to achieve high performance and remain competitive. Different situational variables may require different organizational responses. Thus, managers must continually evaluate their situation and make appropriate decisions based on the most relevant contingency factors (Otley, 2016).

In the context of green banking, this theory suggests that the effectiveness of green banking initiatives may depend on various contextual factors, such as the bank's size, market conditions, and regulatory environment. This theory is particularly relevant in explaining

why specific green banking initiatives might be more effective in some banks than others.

These theories collectively provide a robust framework for understanding the complex relationships between ESG factors, green banking initiatives, perceived value, and financial performance in the Bahraini banking sector. They explain why banks might engage in green initiatives, how stakeholders perceive them, and how they might ultimately impact financial performance.

2.5 Sustainable Development Goals (SDGs) and the ESG Factors

Environmental, Social, and Governance (ESG) factors, including banking, are increasingly recognized as critical components of sustainable business practices. ESG considerations have gained prominence as investors, regulators, and other stakeholders demand greater transparency and accountability from companies regarding their environmental impact, social responsibility, and corporate governance (Spina et al., 2021; Yuan & Cao, 2022).

The concept of ESG emerged and gained prominence in the early 2000s, particularly after the 2004 United Nations Global Compact report titled "Who Cares Wins: Connecting Financial Markets to a Changing World," which was published in collaboration with the Swiss government (Knoepfel & Hagart, 2004).

This report helped popularize ESG by highlighting the importance of integrating environmental, social, and governance factors into financial markets. Unlike the Sustainable Development Goals (SDGs) set by the United Nations, which have a specific target year of 2030 (United Nations, n.d.), ESG does not have a universal deadline for implementation.

However, the growing emphasis on sustainable development has made ESG increasingly relevant, particularly as companies and financial institutions are evaluated and scored based on ESG factors (Friede et al., 2015). This scoring incentivizes banks to enhance their ESG initiatives, improving their reputation, attracting responsible investors, and ensuring compliance with evolving regulations (Eccles & Klimenko, 2019). The focus on ESG is closely linked to global concerns about greenhouse gas emissions and the effects of global warming, as it emphasizes the need for responsible environmental practices alongside social and governance considerations (Boiral et al., 2019). ESG has thus become a crucial framework for achieving broader sustainability goals, aligning closely with the objectives of the SDGs to create a more equitable and sustainable world (United Nations, n.d.).



Figure 1: The 17 Sustainable Development Goals. Source: United Nations. (n.d.). *THE 17 GOALS | Sustainable Development*. United Nations Department of Economic and Social Affairs. Retrieved August 30, 2024, from <https://sdgs.un.org/goals>

In green banking, ESG factors play a crucial role in shaping the adoption and implementation of sustainable finance initiatives. Banks prioritizing ESG performance are more likely to engage in green lending, develop eco-friendly products and services, and implement environmentally conscious processes and procedures (Malsha et al., 2021; Daniel, 2023).

Moreover, research suggests that banks with strong ESG factors may experience improved financial performance and enhanced reputation among stakeholders. For example, a study by Yusoff et al. (2018) found that banks in Malaysia with better ESG disclosure scores exhibited higher profitability and lower risk. Similarly, Miralles-Quirós et al. (2019) demonstrated that banks in the European Union with superior ESG performance were associated with increased shareholder value.

However, integrating ESG factors into banking operations is challenging. Banks may need help measuring and reporting ESG performance and balancing short-term financial goals with long-term sustainability objectives (Weber, 2017). Additionally, the lack of standardized ESG reporting frameworks and the potential for greenwashing pose risks to the credibility and effectiveness of banks' ESG initiatives (Batae et al., 2021).

As the importance of ESG factors continues to grow, banks will need to navigate these challenges and develop robust strategies for incorporating environmental, social, and governance considerations into their operations. By doing so, banks can contribute to the transition towards a more sustainable economy while enhancing their financial performance and reputation.

In recent years, Bahrain has taken significant steps to promote ESG factors and sustainable finance, recognizing the importance of these factors

in driving long-term economic growth and development. The Central Bank of Bahrain (CBB) has played a vital role in this effort, issuing guidelines and regulations to encourage the adoption of ESG principles in the banking sector. In 2021, the CBB released the "Principles of Sustainable Finance," which provide a framework for integrating ESG considerations into banks' operations and investment decisions (Central Bank of Bahrain, 2021). The Bahrain Bourse has also introduced ESG reporting guidelines for listed companies, promoting transparency and accountability in corporate sustainability practices (Bahrain Bourse, 2020). These initiatives demonstrate Bahrain's commitment to aligning its financial sector with global best practices in ESG and sustainable finance, positioning the country as a regional leader.

The Central Bank of Bahrain (CBB) strongly encourages financial institutions in the Kingdom to adopt recognized ESG reporting frameworks and global initiatives to enhance transparency, accountability, and sustainability in their operations. The CBB recommends that banks align their ESG reporting practices with established frameworks such as the Global Reporting Initiative (GRI), the Task Force on Climate-related Financial Disclosures (TCFD), and the Integrated Reporting Framework (IR). Additionally, the CBB highlights the importance of adhering to the standards set by the Sustainability Accounting Standards Board (SASB), the Climate Disclosure Standards Board (CDSB), and the International Sustainability Standards Board (ISSB) (Central Bank of Bahrain, 2021). By following these globally recognized frameworks, Bahrain's banking sector can ensure consistency in ESG reporting, meet international best practices, and contribute to the global effort toward sustainable development. This alignment not only aids in managing environmental and

social risks but also strengthens the banks' reputation and attractiveness to responsible investors.

2.6 Green Banking Initiatives

Green banking, a relatively new phenomenon compared to the banking industry itself, was initiated in Europe in the late 1980s and early 1990s as a response to the requirements of the newly developed environmental regulatory framework and the public's growing concern about environmental issues (Khairunnessa et al., 2021; Garg, 2015). Gupta (2009) defines green banking as a barrier-reducing trade policy that uses differentiated investment incentives to promote the imitation of cleaner technologies in the browner industry in a North-South context. As no specific guidelines constituting green banking exist, it can involve doing business with environmentally friendly companies, offering them lower interest rates, incentivizing loans for environmentally friendly projects, financing alternative and renewable energy sources, and more (Chen et al., 2022).

Green banking initiatives can take various forms and be implemented in different areas of a bank's operations. Some examples of such initiatives include paperless banking, where banks reduce their paper usage by promoting online banking, mobile banking, and e-statements. Reducing paper usage saves trees and reduces the bank's carbon footprint by minimizing the need for physical mail and transportation. Banks can also offer green lending, preferential interest rates, or other incentives for loans supporting environmentally friendly projects, such as renewable energy, energy-efficient buildings, or sustainable agriculture (Böttcher, 2020). Another initiative is sustainable investment, where banks incorporate environmental, social, and governance (ESG) factors into their investment decisions, prioritizing companies and projects that demonstrate a commitment to sustainability.

Banks can design their physical branches to be more environmentally friendly by using renewable energy sources, implementing energy-efficient lighting and cooling systems, and utilizing sustainable building materials. Banks can reduce their environmental impact by implementing green banking initiatives and encouraging their customers and the broader community to adopt more sustainable practices.

In the Kingdom of Bahrain, a country heavily dependent on the oil and gas industry, green banking initiatives are vital as the finance sector plays a crucial role in adopting sustainable development (Almeer & Almaamari, 2022). The Kingdom recently demonstrated a growing commitment to environmental sustainability. Recognizing the global challenges of climate change and environmental degradation, Bahrain has taken proactive steps to address these issues and transition towards a more sustainable future. In 2009, the country took a groundbreaking step by establishing its environmentally conscious financial institution, the Green Bank, to address the dwindling faith in environmental science and technology (Aldulaimi et al., 2022).

These initiatives have brought about both significant and incremental changes, such as enacting laws to restrict emissions from vehicles and industries and implementing a "green procurement strategy" that requires the government to purchase machinery and utilities with minimal environmental impact, preferring those utilizing renewable resources (Mehta et al., 2023). The private sector has also responded, with one of the nation's largest companies, Aluminum Bahrain, committing to making alternative changes and recruiting qualified personnel to pursue a greener production process (Abdulla & Naser, 2021).

To ensure the success of green banking initiatives, the Social, Technological, Economic, Environmental, and Political (STEEP) framework has been proposed to incorporate external factors

systematically and guide the analysis of environmental influence on organizations (Na et al., 2022). This framework allows firms to consider whether changes should be made to environmental facts, decisions, and alternative scenarios and the likely outcome of their choices.

Green banking initiatives are crucial for the banking sector to be environmentally friendly and ensure sustainability while reducing adverse environmental effects. These initiatives can be introduced in various ways, such as providing e-statements instead of printed statements and using recycled paper for bank documentation.

Green banking initiatives are not a luxury for banks to save the environment; instead, they strategically influence all operational areas, with important implications for top management (Sun et al., 2020). Banks must also be concerned with legitimacy and effectively take steps to match their internal values and norms with those prevailing in the broader society, which has implications for recruitment and training.

To cope with the actions, banks must change their operational methods and build new capabilities to satisfy customer demand. Nationalized commercial banks and development financial institutions might need to support the public sector or specific private sector explicitly works.

Green initiatives that can be implemented within the bank include shutting down computers and electrical systems for five minutes daily to save energy, reducing inefficient lighting by replacing it with energy-saving LED lights, and using double-sided printing to minimize paper use and waste. Additionally, banks can adopt the practice of switching off electrical devices after use and offering annual green training programs for employees. Energy-efficient measures like automatic switch-offs, replacing CRT screens with LCDs, and using multifunctional machines instead of single-purpose ones can significantly reduce energy

consumption. Banks can further encourage telecommuting to minimize environmental impact and replace disposable cups with reusable breakroom mugs. The Banks should also strive to train employees regularly on health, safety, and sustainability management to ensure the well-being of staff and supply chains (AL-Sartawi et al., 2020).

As depicted in Fig (2), many banks have begun establishing a dedicated Sustainability Committee responsible for driving these organizational initiatives. This committee leads the development and implementation of various internal sustainability programs designed to raise environmental awareness among employees and integrate sustainable practices into daily operations. These programs often include employee training on environmental issues, energy efficiency measures, waste reduction strategies, and the promotion of digital banking to reduce paper usage.

By fostering a culture of environmental responsibility, these banks improve their internal sustainability practices and enhance their overall sustainability ranking in the industry. The successful implementation of these initiatives contributes to a stronger corporate reputation, attracting environmentally conscious customers and investors. Moreover, these efforts often lead to cost savings through increased efficiency and reduced resource consumption. As a result, banks can position themselves as leaders in sustainable finance, ultimately contributing to environmental preservation while securing long-term business success.

This holistic approach to sustainability demonstrates a bank's commitment to environmental stewardship, which can provide a competitive advantage in an increasingly eco-conscious market. It also helps banks align with global sustainability goals and meet the growing

regulatory requirements for environmental responsibility in the financial sector.

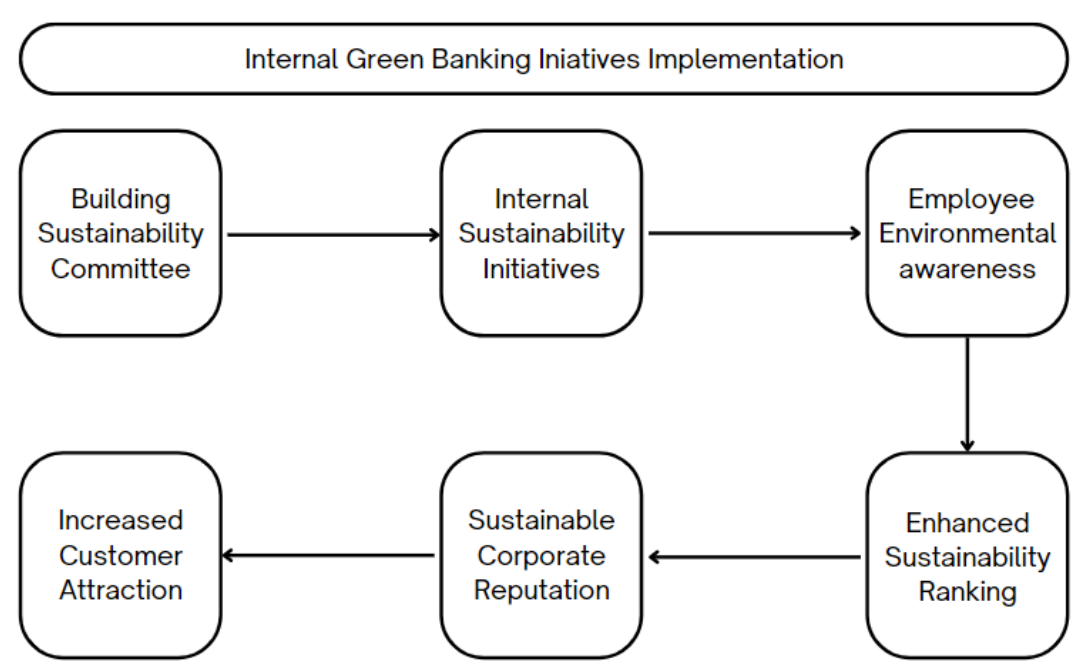


Figure (2) Internal Green Banking Initiatives Implementation. Source: author.

This thesis focuses on four specific green banking initiatives that are particularly relevant to the banking sector in Bahrain: environmental policies and goals, green lending, green products and services, and green processes and procedures. These four initiatives were chosen based on their prominence in the literature, potential for significant environmental impact, and relevance to the Bahraini context.

While there are other green banking initiatives, such as green marketing, employee training, and stakeholder engagement, the selected four initiatives represent a comprehensive approach to sustainability in the banking sector. They cover internal (policies, processes) and external (lending, products) aspects of a bank's operations and have been widely adopted by financial institutions worldwide.

Furthermore, these four initiatives align with the Central Bank of Bahrain's sustainability goals and regulations, which have actively

promoted green banking practices in recent years (CBB, 2020). By focusing on these initiatives, this thesis aims to provide a comprehensive analysis of green banking practices in Bahrain and contribute to the growing body of literature on sustainable finance in the region.

The following sections will delve into these initiatives, discussing their characteristics, benefits, implementation challenges, and real-world examples from different countries and financial institutions.

2.6.1 Environmental Performance of Banks

Environmental performance is a crucial aspect of ESG and plays a significant role in the banking sector. It refers to how well a bank manages its environmental impact and contributes to sustainable development (Malsha et al., 2021). Banks with solid environmental performance are committed to reducing their ecological footprint, supporting eco-friendly projects, and promoting sustainable practices among their clients and stakeholders (Gangi et al., 2019).

Key indicators and metrics, such as greenhouse gas emissions, energy consumption, water usage, and waste generation, are the backbone of assessing a bank's environmental performance (Nguyen et al., 2021). When monitored and reported, these metrics enable banks to pinpoint areas for enhancement and set targets to curtail their environmental impact over time.

Integrating environmental risks into credit risk assessments and lending decisions is another important aspect of environmental performance in banking (Zhang et al., 2020). By considering the potential environmental impacts of financed projects, banks can mitigate risks associated with financing environmentally damaging activities and support the transition to a more sustainable economy.

Environmental solid performance can yield many advantages for banks, including bolstered reputation, heightened customer loyalty, and enhanced access to capital from sustainability-minded investors (Ebrahim et al., 2021). By showcasing a steadfast commitment to environmental sustainability, banks can carve a niche in a competitive market and attract customers who prioritize responsible banking practices.

In Bahrain, environmental performance is gaining importance in the banking sector. The Central Bank of Bahrain (CBB) has introduced guidelines and regulations to promote sustainable banking practices, such as the requirement for banks to develop and implement environmental and social risk management systems (CBB, 2020). Additionally, several Bahraini banks have improved their environmental performance by implementing energy-efficient technologies, reducing paper usage, and financing renewable energy projects (Ebrahim et al., 2021). However, there is still room for improvement, as some studies suggest that adopting environmental practices among Bahraini banks is relatively low compared to other countries (Abdulla & Naser, 2021).

In response to public concerns over sustainability and the environment, banking academics have been increasing efforts to monitor, measure, and improve the banking industry's environmental performance. However, there is often a misconception that better environmental performance will result in higher costs and decreased profitability (Nguyen et al., 2021). This can discourage investments in environment-oriented projects, as banks prioritize profit maximization and maintaining a competitive business (Saeed et al., 2023; Kalyar et al., 2020).

The CBB issued ten Core/Recommended Environmental Performance KPIs outlined in the ESG Reporting Guidelines document (shown in Fig (4) below). Each KPI represents a crucial aspect of

environmental performance that companies are recommended to report on as part of their ESG disclosures. The graph visually represents these key environmental metrics, highlighting the areas companies should focus on when assessing and reporting their environmental impact.

These KPIs cover a range of environmental factors, from energy use and emissions to water consumption and waste management. They also include oversight and risk mitigation measures, emphasizing the importance of measuring, actively managing, and mitigating environmental impact.

Banks can provide a comprehensive overview of their environmental performance by focusing on these core KPIs, enabling stakeholders to assess their environmental impact and sustainability efforts. This aligns with the document's goal of establishing a uniform framework for ESG reporting and promoting consistency and reliability in environmental disclosures.

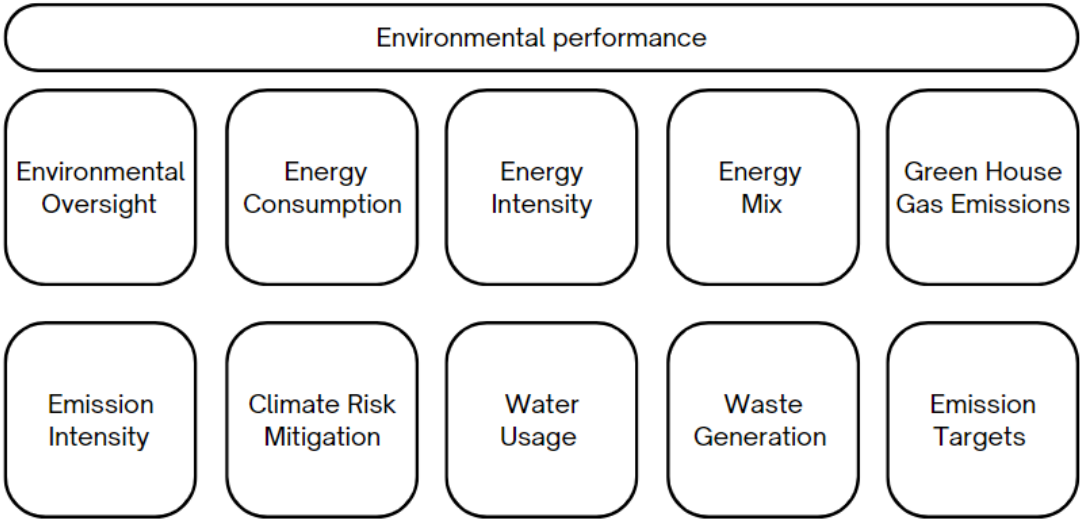


Figure (4) CBB Core/Recommended Environmental Performance KPIs and Guidance. Source: Adapted from "ENVIRONMENTAL, SOCIAL AND GOVERNANCE (ESG) Reporting Guidelines, 2023, Appendix 1 – Core/Recommended ESG KPIs and Guidance.

2.6.2 Social Performance of Banks

The social performance of an industry is evaluated based on its adherence to social objectives. Financial services firms have traditionally prioritized profitability, assessing their performance primarily on their ability to generate wealth. However, their influence on communities and the environment in which they operate has led to mounting pressure for them to adopt and evaluate a broader range of objectives. Stakeholders in numerous financial services firms are urging them to consider the social and environmental impact of their activities. They are advocating for management to embrace a more comprehensive, long-term perspective of success and to be responsible for their decisions' financial outcomes and the social, environmental, and economic effects.

Several theories of corporate social performance provide a theoretical framework for understanding how firms should behave regarding their social goals and responsibilities. One theory, known as the enlightened self-interest theory or instrumental theory, suggests that it is in the long-term best interests of a publicly owned company to act socially responsibly, as this can enhance the firm's competitiveness and financial performance. Another theory, the corporate social responsibility (CSR) or philanthropic view, posits that firms have a duty to society beyond what is mandated by law and regulation.

The social performance underlying a financial institution's service delivery is not just about what they do but, more importantly, what they achieve. From the customer standpoint, social performance is about the extent to which the customer's needs and wants are met. The primary social goal for most financial institutions is to improve the quality of life for a target population.

In the banking sector, the services provided to customers aim to improve their quality of life, and only the extent to which these services achieve this goal, considering the specific needs and wants of the customer,

can determine the bank's social performance. For example, an education loan that allows lower-income families to send their children to university can contribute more to social performance than a primary microcredit loan if the target population identifies a university education as a need.

Regarding financial performance, various positive and negative effects are associated with social performance. This research aims to highlight and compare the difference in financial performance between banks active in microfinance and those not. Microfinance is a sub-sector of the banking industry and a tool to enhance financial inclusion. If a bank is socially responsible, it is more likely to set aside a specific portion of funds for Corporate Social Responsibility (CSR).

Previous research suggests a link between social initiatives and bank financial performance. The slack resource hypothesis suggests that enhanced social performance can boost employee morale and loyalty, improve efficiency, and decrease staff turnover. This is particularly relevant for green banking in Bahrain, where high-quality human resources are scarce due to the relatively small and undiversified labor market.

Improved social performance can increase sales by creating a good image among stakeholders, particularly customers, and differentiating a firm's products from competitors. This relationship between social performance and sales is crucial for green banks, as increased regulation in financial services often prevents them from differentiating themselves through 'greener' loans due to higher costs and lower profitability.

The stakeholder theory predicts a positive relationship between social and financial performance and states that primary stakeholder relationships affect firm performance. The stakeholder model shows how to identify and categorize multiple stakeholders' claims and organizational responses

based on salience, a function of stakeholder attributes or characteristics that prioritize competing claims.

The classic agency theory paradigm predicts a trade-off between social and financial performance, aligning with the efficiency perspective in economics. Managers may pursue personal incentives and socially responsible actions in publicly held firms, which could be motivated by a desire to increase stock prices and reduce takeover threats.

Given the importance of social objectives in green banking initiatives, the need to measure social performance becomes even more crucial. Banks could be trying to achieve various social objectives, from being good corporate citizens to fostering environmentally friendly behavior in clients to seeking a favorable image/reputation from stakeholders.

As depicted in Fig (3), The social performance KPIs outlined in the "Environmental, Social, and Governance (ESG) Reporting Guidelines 2023" document cover a comprehensive range of factors that assess a company's impact on its workforce, community, and society. These indicators address crucial aspects such as workforce composition and diversity, labor practices, employee well-being, and community engagement. Specifically, they include metrics on total workforce demographics, policies against child and forced labor, employee turnover rates, gender pay equity, occupational health and safety, non-discrimination practices, and efforts toward nationalizing the workforce. The KPIs also encompass measures of the company's investment in employee development through training programs and its commitment to human rights.

Furthermore, the social performance indicators in the "Environmental, Social, and Governance (ESG) Reporting Guidelines 2023" extend beyond internal practices to evaluate the company's broader

societal impact. This is reflected in KPIs that measure community investment in terms of financial contribution and the scope and impact of these initiatives. The indicators also emphasize the importance of diversity at various levels of the organization, particularly in management composition. By covering these diverse aspects, these KPIs provide a holistic view of a company's social performance, enabling stakeholders to assess how well the organization balances its business objectives with its responsibilities towards employees, local communities, and society. This comprehensive approach aligns with growing expectations for businesses to address social issues and contribute to sustainable development positively.

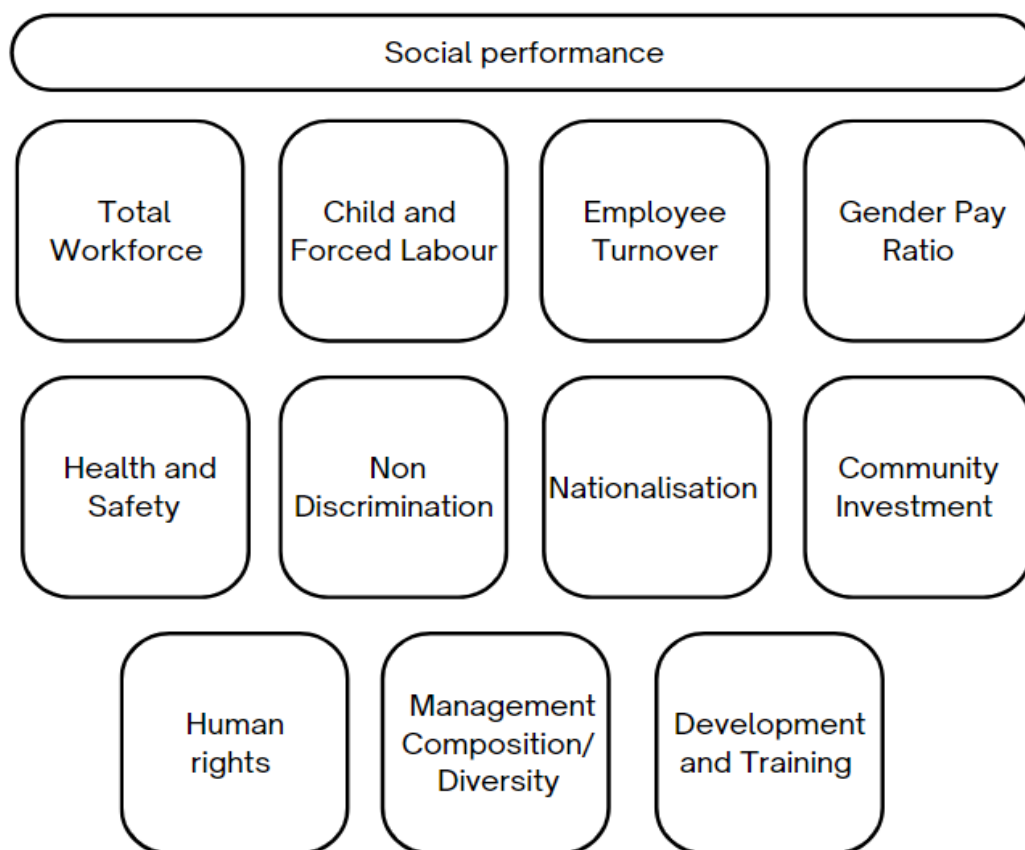


Figure (4) CBB Core/Recommended Social Performance KPIs and Guidance. Source: Adapted from "ENVIRONMENTAL, SOCIAL AND GOVERNANCE (ESG) Reporting Guidelines, 2023, Appendix 1 – Core/Recommended ESG KPIs and Guidance.

2.6.3 Governance of Banks

The role of green banking in contributing to society and the country is of utmost importance. Controlling and monitoring agencies, such as the central bank and government, must examine and regulate this contribution. Banks are expected to adhere to the laws and regulations set by the government to ensure that their practices align with the principles of sustainable development. Research has shown that with the right policy mix, the financial system can significantly deliver sustainable development by creating enabling conditions, changing signals, and removing impediments.

In June 2009, Malaysia launched the National Green Technology Policy and the Green Technology Financing Scheme. This pragmatic initiative outlines strategies to turn Malaysia into a low-carbon economy. This involves a long-term restructuring of all economic terms and economic and social activities to produce more sustainable outcomes and minimize environmental impact. Implementing this policy will involve significant structural changes to the entire economy and significantly change the behavior of economic agents, including the banking sector.

An organization or sector's governance fundamentally determines environmental policy and practice. In a market-based economy, firms' environmental behavior is shaped by stakeholder requirements, the regulatory framework, and the relative cost of implementation. The government can influence the environmental policy and performance of the banking sector through its regulatory and fiscal powers.

The current level of regulation is not considered an essential driving force because the Central Bank of Bahrain has only recently released legislation for implementation. In July 2021, the CBB issued voluntary Environmental, Social, and Governance (ESG) reporting guidelines for

Bahraini financial institutions. These guidelines encourage banks and other financial institutions to integrate ESG considerations into their operations and disclose their ESG performance to stakeholders. The guidelines cover various aspects of ESG reporting, including governance, strategy, risk management, and metrics and targets.

The Central Bank of Bahrain's role in promoting green banking is significant. Top-down approaches to change are common in developing countries' banking sectors. Clear regulatory guidance and technical assistance can help banks achieve effective environmental performance, even without explicit central bank encouragement.

The primary objective of corporate governance is to improve shareholder value by ensuring that banking companies are managed efficiently, transparently, and accountably while assessing their economic, social, and environmental impact. Corporate governance contributes to developing and implementing green banking initiatives within the banking sector, which will, in turn, affect bank performance.

Governance is the mechanisms and relationships for steering control, determining objectives, and assessing performance and compliance. Management and stakeholders believe that implementing green initiatives may distort the usual course of business, thus affecting shareholder wealth. This perceived apprehension is a premier area for agency theory, which defines governance as the set of relationships between the principal and the agent to ensure the agent acts in the principal's interest through contracts and monitoring.

The Central Bank of Bahrain (CBB) issued the Corporate Governance Code in October 2010, which sets out the best practices and standards for corporate governance in the Kingdom of Bahrain. While the code does not explicitly mention ESG or green initiatives, it does emphasize the

importance of corporate social responsibility (CSR) and the board's role in promoting sustainable practices. The code states that the board should ensure that the company's operations are conducted socially responsibly, considering the interests of various stakeholders, including employees, customers, suppliers, and the community.

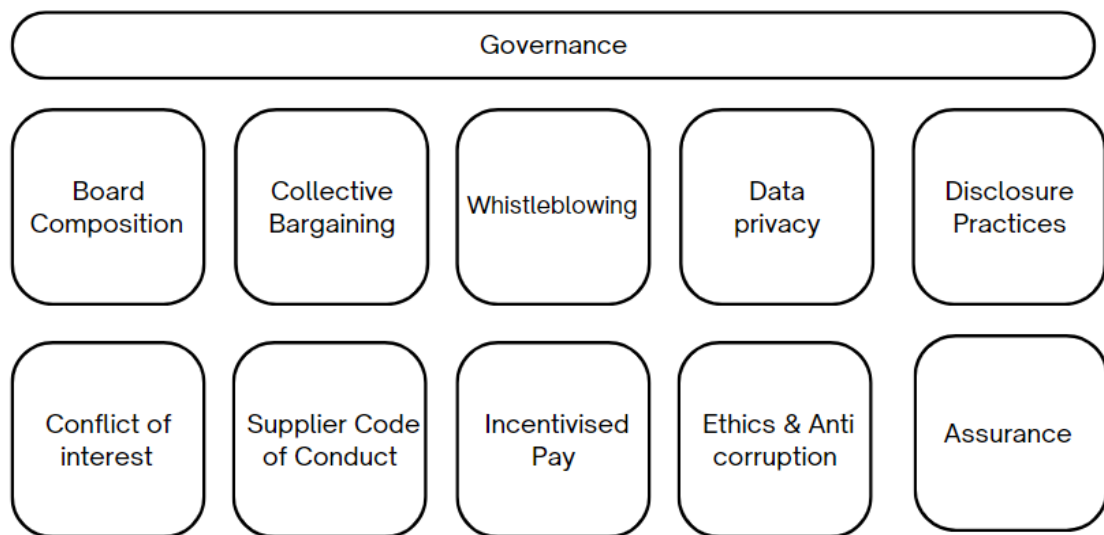


Figure (5) CBB Core/Recommended Governance KPIs and Guidance. Source: Adapted from "ENVIRONMENTAL, SOCIAL AND GOVERNANCE (ESG) Reporting Guidelines, 2023, Appendix 1 – Core/Recommended ESG KPIs and Guidance.

As shown by Fig 5, the "Environmental, Social, and Governance (ESG) Reporting Guidelines 2023" document outlines several key performance indicators (KPIs) for governance, providing a comprehensive framework for companies to assess and report on their corporate governance practices. These governance KPIs cover various areas, including board composition, collective bargaining, whistleblowing mechanisms, data privacy, disclosure practices, conflict of interest management, supplier code of conduct, executive compensation, ethics and anti-corruption policies, and sustainability assurance processes.

Specifically, the governance KPIs require companies to report on their board composition, including the size of the board, the percentage of

female directors, and the categorization of directors (executive, non-executive, independent). Companies are also expected to describe their processes for preventing and mitigating conflicts of interest, their approach to collective bargaining, and their whistleblowing mechanisms. The guidelines emphasize the importance of data privacy, asking companies to detail their privacy policies and compliance with data protection laws. Additionally, companies must report on their sustainability disclosure practices, supplier code of conduct, executive compensation tied to sustainability performance, ethics, and anti-corruption policies, and how their sustainability disclosures are assured or validated. These governance KPIs promote transparency, accountability, and ethical business practices while encouraging companies to integrate sustainability into their core governance structures and decision-making processes.

2.6.4 Environmental Policies and Goals of Banks

Environmental policies and goals are essential to a bank's green banking initiatives. The successful implementation of environmental policies and goals requires the support and participation of all employees within the bank. However, employee commitment to the environmental cause may be affected by several factors, such as a perceived trade-off between financial performance and an improved environmental stance. More specifically, there may be a perception that adopting environmental policies and goals may restrict the ability to conduct business as usual and harm long-term financial prospects. This may discourage employees as they may feel that their contribution towards the environmental cause would be futile if the bank does not support it. The net result is that many banks are left with an ad hoc approach to environmental management consisting of numerous uncoordinated initiatives and a lack of clear targets.

This contrasts with the systematic approach recommended by best practice environmental management. (Kazancoglu et al.2021)

The framework and theory of planned behavior state that behavioral beliefs, normative beliefs, and control beliefs determine employee behavior. To influence employee behavior toward a greener direction, management within the bank must create a culture and working environment conducive to adopting environmental initiatives. This requires the internalization of new beliefs and attitudes about environmental issues. This may be difficult in cases where the current culture clashes with the attitudes and beliefs required to implement environmental policies and goals effectively. (Elahi et al., 2021; Ajzen, 2020)

Over the past 40 years, many countries have devised environmental policies as public preferences favor environmental quality. The focus on green issues was mainly formulated with the awareness of environmental concerns and the relation to resources and ecosystems. Environmental policies are a broad topic. Concerning banks, it concerns the credit and monetary systems alongside specific regulatory policies aimed at improving the environmental performance of businesses. The driving force behind these policies comes from consumer groups, further reinforced by nongovernmental organizations (NGOs) that desire to change business practices to a more sustainable and environmentally friendly manner. These groups apply public pressure on governments and international organizations for greener policies but also apply pressure on businesses, including the banking sector. This increase in pressure leads to the question of how environmental policies will affect the banking sector (Kraus et al., 2020).

The level of environmental regulation influences the type and amount of loans relating to the environment. Increasing regulation will decrease the number of environmentally damaging projects, with loans more geared towards projects with a positive environmental benefit. The regulations may affect the operations of foreign banks and subsidiaries of a foreign parent, typically in that a regulation applying to domestic banking businesses will also include foreign businesses. This will nullify any benefit or disequilibrium effect for foreign Multinational Corporations (MNCs) and limit their choice of projects. This will steer them towards investment in environmentally friendly projects, as seen with the recent ratification by Japan of the Kyoto Protocol, which has caused the Japanese Bank for International Cooperation to announce a new set of guidelines for loans supporting environmental and developmental projects. (Kabirifar et al., 2020)

Environment responsibility and, in general, CSR do not represent a one-dimensional theoretical construct; instead, it is an aggregate of various measures of which no single measure seems to represent the whole concept. Environmental value at its level arises from the belief that a behavior or an object is an acceptable end. For example, a firm's polluting behavior is said to have no value if society disapproves of it and there are penalties, in the case of a manufacturing company that emits harmful pollutants into the air as part of its production process. If the surrounding society values environmental sustainability and enforces strict environmental regulations, the company's polluting behavior will be viewed negatively. This societal disapproval could result in penalties such as fines, stricter regulations, or even a loss of business from environmentally conscious consumers. Consequently, the firm's polluting behavior is deemed to have no value because it does not align with societal

expectations and leads to negative consequences for the company. However, the market is willing to penalize or reward with an increase or decrease in usual banking services based on the bank's environmental friendliness. (Ahmad & Zhang, 2020)

Banks, one of the financial intermediaries between savers and borrowers, must seek sustainability and consider the environment. Thus, these financial institutions must support environmental sustainability and reduce negative environmental impacts by implementing environmentally friendly banking strategies. Environmental policy is a public declaration of principles and intentions that outlines an organization's environmental issues and measures. It provides a framework for action and assists in decision-making. Focusing on the policy process, we examine the forces that stimulate the implementation of environmental policy in the banking sector in Malaysia. We also evaluate the nature of policy, whether it is reactive or voluntary and imposed or originated from within. This is followed by the specific goals that banks want to achieve to translate their policy into action and the effectiveness of the policy thus implemented. (Al-Shammari & Mili, 2021)

Environmental policy is a relatively recent phenomenon in the realm of environmental management in organizations. Many organizations began addressing the environmental effects of their activities with the emergence of modern environmental regulation in the late 1960s and 1970s. The main forces that stimulate policy implementation are government requirements and, to a lesser extent, customer pressure. This is in line with the nature of the policy implemented, which is primarily reactive and originates from external forces. Most existing policies are in the form of statements and guidelines; to this date, HSBC is known to have an environmental management system (HSBC Holdings plc., 2023). It still lags in

effectiveness as more commitment is shown to the policy than actual action. This gap is mainly due to the lack of awareness and understanding of the benefits that can be gained from the implementation of policies and also the perceived cost of actual action. An example would be the reluctance of certain banks to provide finance for renewable energy and energy efficiency projects. (Bukhari et al.2020)

Some environmental management approaches are likely to influence the various activities of the firms, including the style and manner in which they deal with their stakeholders and the extent to which they feel the need to disclose information about their activities. Each approach has assumptions concerning the underlying determinants of environmental behavior and how best to improve. A firm's relative profitability after implementing an environmental policy might affect a trade-off between the quantity and quality of resources and how they are employed, mirroring constraints when attempting cost minimization. This suggests that any improvement of financial performance, a primary goal of all firms, must be compatible with the resource efficiency and preventative measures approaches. (Miah et al.2021)

An examination of the impacts of particular environmental policies and goals on the behavior and performance of banks can be based on theories of business behavior and applied to a specific policy context. Decision theory literature suggests that constraints are self-imposed, forward-looking, and designed to specify a rule that dictates to what extent an action can take place. This would be a minimax regret (or aspiration) level strategy for the polluter-payer principle. The wider adoption of credit policy and loan condition-type strategies would take the form of a mixed integer goal program to direct resources into environmental sector lending. The extent to which a policy will affect a change in the behavior or

direction of resources can be evaluated by its marginal opportunity cost. Emission trading markets and other opportunities to offset detrimental environmental activities will be evaluated at the margin and compared to the alternative revenue from the initial activity. (Chien et al.2022; Stern & Stiglitz, 2021)

The first research question to be addressed in this context is whether the implementation of specific environmental policies and objectives is likely to influence the behavior of banks. Any policy is designed to change the status quo of a standard or activity deemed less desirable with the aim of an improvement. This could be promoting specific sector lending or discouraging certain activities with detrimental environmental impacts. Both will have an intended effect, and opportunity cost at the margin compared to alternative bank actions. The second question will be how these policies will affect the allocation and types of resources the bank employs. This question is a microeconomic issue of factor substitution and changes in comparative advantage between different kinds of activities. The final question will be the effect of these policies on the overall financial performance of the bank. This broad assessment will determine the cost of revenue changes and the profitability of the environmental sector compared to alternative activities. All three of these questions determine a marginal change in the behavior of the environment and will be best evaluated by specific policy case studies. (Bătae et al., 2021)

Measurement of environmental policies and goals entails evaluating the extent to which a firm has formulated quantifiable environmental policies and targets and integrating them into its business operations. It provides a basis for judging the effectiveness of environmental management activity in the future. This step will not be necessary for all banks as they may not have developed a focused green strategy. At this

more generic level, it can be difficult to obtain information, as the bank itself may not have a clear idea of what it hopes to achieve. Information should be obtainable from public domain resources and annual reports. If quantifiable policies and targets are in place, it provides a basis for monitoring and comparison. Having located this information, the next stage is to ascertain the extent or level of activity in terms of environmental performance. This can be done by ranking banks according to their environmental initiatives and determining whether there is a linear relationship between the level of environmental spending and set policies and targets. A key determinant of future environmental impact will be the level of capital expenditure. This can be monitored and compared across various activities such as installing more energy-efficient IT equipment or opening a new 'green' branch. Ideally, future research will aim to identify the impact of relative spending levels on specific activities upon subsequent environmental performance. (Ning et al.2023; Karim et al., 2021).

2.6.5 Green Lending by Banks

The financial industry and society have recently witnessed a burgeoning interest in green banking. Banks have initiated a global initiative to save the environment, which includes green banking. This environmentally friendly program aims to enhance human well-being by safeguarding the ecosystem. This is a pressing issue in the context of sustainable development, as the deteriorating environment threatens the quality of life of future generations. These threats are caused by many factors, with the banking industry being significant. Thus, awareness of environmental issues would be a positive step in the right direction towards sustainability. (Park and Kim, 2020)

Green banking is more than supporting environmentally friendly projects; it is about banks proactively promoting sustainable development through responsible banking practices. Banks can significantly impact by gradually aligning their values and ethos with environmental responsibility. This is evident in their corporate social responsibility (CSR), which includes environmental responsibility in all their decisions. The most beneficial business practices for the environment involve financing public and private projects. Banks must design financial products for environmentally friendly projects, offer unique credit lines, and provide low-interest loans to facilitate this. This is a departure from traditional banking practices that often involve working with polluting industries such as mining and logging.

Banks engaging in green lending have two distinct approaches to choose from. The first is the borrower approach, which focuses on clients with sustainable agendas and environment-friendly goals. These clients are better positioned to follow the loan's eco-friendly terms. The second approach is the project approach, where the bank evaluates the environmental impact and sustainability of the specific project seeking financing, regardless of the borrower's overall business model. In both approaches, the bank prioritizes enhancing the lending staff's ability to evaluate environmental credit risk, an overlooked area. The assessment tool should be simple, practical, and applicable to all finance deals, minimizing environmental impact and quantifying risk. This comprehensive understanding of the two approaches is crucial for effective green lending, ensuring the pricing aligns with the project's best interest.

Green lending entails all the financial services provided to clients to encourage investment, resulting in environmentally friendly projects. In a narrow sense, it may be defined as lending to projects directly to improve

environmental performance. We can also describe it as internalizing environmental externalities, shifting the financial institution's resource allocation to be more sympathetic to the environment, and making its operations more environmentally friendly. (Taneja and Özen2023)

When financial institutions engage in green lending, they must do so in a manner consistent with their customers's expectations and perceptions of what constitutes a green loan. At its simplest, if a customer has a project with strong environmental benefits, he will want to take out a loan specifically earmarked for that project. This would entail a financial institution deciding that the project's externalities are viable for integration into future loan costs. That customer may be annoyed if that loan has the same conditions and interest rates as a conventional loan. This indicates that the financial institution could not price the environmental externalities, and the loan may not give that customer the perceived value of green. (Sharma & Choubey, 2022)

Financial institutions will increasingly seek to attract conscious consumers and customers striving to improve their environmental performance as they increasingly recognize the meaningful interrelationship between profitability and sustainability. This is expected to increase demand for green loans and services. Thus, there is a relationship between the nature and the type of project for which the customer plans to take a loan, the type of loan the financial institution is willing to offer, and the customer's satisfaction in taking that loan. The high perceived value of green would result in the customer taking a green loan with an equal type and price to a conventional loan. In contrast, the most basic green loan targets environment-friendly projects and typically offers lower rates than a conventional loan. (Yemelyanov et al., 2020; Zhang et al., 2022)

In their study, Belghitar et al. (2013) mentioned that banks involved in sustainable finance, especially renewable energy, show significant abnormal returns that are considered a positive response from the market. This means there is a positive sentiment and belief in the market that the project will provide greater future value than the cost, which is also visible in conventional projects. A positive abnormal return indicates a favorable event in a project that is considered successful. A project's net present value (NPV) reflects its success in financial economics. Projects with a higher NPV have better opportunities to gain profits, indicating that they perform well. (Liang and Renneboog, 2020)

Al Jbour et al. (2014) reported similar findings in their research on the Jordanian banking industry. Using return on investment (ROI) as a financial performance measure, they found a significant positive relationship between green lending and the bank's financial performance. This finding suggests that as banks identify green projects with a favorable ROI, they may gradually increase their investment in the green sector, recognizing the potential for better opportunities to gain profit.

Today, banks are taking a proactive role in environmental conservation by allocating a portion of their financial portfolio to environmental investments, conservation-oriented products and services, and loans for projects with ecological benefits. This is the first step in understanding green lending. It aligns with the bank's long-term strategic goals of financing environmentally friendly, energy-efficient, resource-efficient, and sustainable projects. It sets the stage for investing in a greener future while earning a return. This concept, rooted in the principle of 'responsible finance,' empowers individuals, businesses, and organizations to enhance their quality of life by making informed financial decisions and taking actions that best serve the environment and society. These actions

can range from rejecting a loan that could have negative environmental impacts to actively participating in community development and conservation projects. (Alaali & Naser, 2019)

Green lending goes further in optimizing environmental benefits; it does this by internalizing the cost of environmental degradation when making a loan for a project with positive environmental benefits. For example, a sugar mill may be considering seeking funds for a cogeneration plant to increase energy efficiency and reduce emissions. In the lending process through structured finance on specific assets, if the marginal cost of a pollution control boiler is less than the revenue from the increase in production due to increased efficiency, the bank can provide a loan for only the boiler. This marginal cost analysis may link the boiler loan to a credit on the larger project loan's interest. In this case, the bank has directly funded an environmentally beneficial project with ideological alignment, but the analysis has not been explicit. The bank may have used traditional credit techniques to include the boiler as part of the project loan. The marginal cost analysis is an example of alternative credit delivery. By skillfully structuring the finance, we can identify asset-specific credit and provide environmental optimization without increasing the borrower's cost. (Drago & Gatto, 2022)

Commercial banks' green lending is important for providing specific incentives for activities that positively impact the environment. Compared with those hurting the environment, the positive relationship between environmental regulation or responsibilities and the profitability of greener projects has clear implications for how environmental policies can shape credit allocation. Banks can improve their allocation efficiency by integrating environmentally sustainable lending into their business strategy. Hartman and Hasan (2004) proposed explicit and implicit policies

as methods by which a bank can implement sustainable lending. A dedicated department or specific lending targets often accompany the systematic adoption of an explicit policy. (Yin et al., 2021)

Central bank regulations, such as risk weights in supervising a bank's capital adequacy, can significantly influence the types of lending that banks consider, including green lending. For example, implementing risk weights in Sweden has encouraged banks to prioritize green lending. By assigning lower risk weights to green assets, such as loans for renewable energy projects or energy-efficient buildings, banks can hold less capital against these loans than loans for environmentally harmful projects. This incentivizes banks to allocate more of their lending to green projects, allowing them to optimize their capital usage and potentially improve their profitability (Torvanger et al., 2021).

In contrast to explicit regulations, implicit policies are less formally defined and more closely resemble an informal agreement or preference for customers or projects that align with environmental goals while still meeting the requirements of lending to creditworthy clients and maintaining profitability. Adopting explicit and implicit policies has led banks to finance greener projects by providing loans with advantageous terms and conditions and larger credit lines, effectively replacing traditionally profitable but environmentally harmful industries and firms. This approach to steering lending practices has a notable advantage over the direct regulation of specific industries or firms, as it does not negatively impact employment levels, wage rates, or international competitiveness across the entire economy (Torvanger et al., 2021).

2.6.6 Green Products and Services of Banks

Green banking covers a wide range of activities conducted to harness the positive impact of the financial sector on the environment. Green

products are innovative financial products and services that address environmental and sustainability issues. Also, marketing these products and services must convey environmental commitment and added value to the customer. It is recognized that banks have started introducing green products and services. However, this is still nascent in Bahrain, and a few consumer products primarily target retail consumers. Some of the green products and services available are, green personal or vehicle financing is pegged to a product that will benefit the environment. A good illustration would be personal financing products promoting hybrid vehicle purchases, also home financing / Property financing—Several products offer high-margin financing facilities for properties built to environmental standards, such as houses with solar panels. This is especially prevalent in Europe and the USA. Although Bahrain has yet to see high-margin financing, there are Islamic financing structures that specialize in property transactions, e.g., diminishing Musharaka or Ijarah, that can be adapted to this scheme. Credit Cards are possibly the most suitable product to promote environmental awareness because they are known to the masses. There are a few options, such as affinity cards, where a percentage of spending goes to an environmental organization. This card is like an agreement between alliance partners whereby each time the card is used for spending, the bank passes a pre-agreed-upon amount or percentage to the organization. This segment of the market can be significantly expanded in Bahrain.

Banks are involved in creating, promoting, and implementing green products and services. However, they worry about accepting these products and services by customers with varying financial preferences and a broad range of banking services, as well as their later financial performance and impact on the economy. It is important to understand what factors are, how

those might affect the implementation of green products and services, and how they will affect banks' financial performance (Lilliestam et al., 2021).

Understanding the factors of green initiatives is essential to identify the success of banks' green products and services. Value has been recognized as one of the key elements that will result in organizational performance. Similarly, creating value will result in several benefits to the firm, such as the attainment of competitive advantage and customer loyalty, thus sustaining and even improving the firm's performance. The importance of creating value has led to the understanding of how customers perceive the value provided by the product or services.

For the banking industry, it is crucial to identify how developing a specific product or service can create value and enhance its performance. Studies on green products in banking industries are still new and require further examination. One way to measure the value of a product or service is by examining its perceived value. Gronroos (1990) defines perceived value as a form of overall assessment based on the perception of the net worth of a product, considering what is received and what is given. The perceived value depends on the difference between customer expectation and assessment after experiencing the product or services.

Concerning green products and services, the bank must determine the product's success and contribution to the overall performance. This will enable them to improve the product or make better decisions when creating another green product. The impact of this decision will hinge on the customer's perceived value, and thus, understanding the relationship between the green product and customer perceived value is paramount. However, literature has shown that product quality and perceived value may vary based on product attributes and types (Zeithaml, 1988). It is still unknown how it relates specifically to green products.

Green products and services of banks are the new addition to the prevailing banking products and services, which are intended to finance sustainable development. Green products and services are the marketing strategies of banks to meet customer wants, which offer both economic returns and environmental benefits. Banks' green products and services can be generally categorized as green loans, green insurance, and green credits. The prime purpose of green products and services offered by banks is to internalize the externalities in the market of mainstream financial products and services to increase the allocation of funds for sustainability.

Effective implementation of green products and services in Bahrain's banking sector would act as a driver for change, leading the banking industry to emphasize environmental and social risk analysis in its lending and credit activities. This, in turn, will help the banking industry develop a sustainability policy for the bank's operations, which will help minimize and maximize positive impacts. An enhancement in the environmental and social risk analysis of activities of banks in Bahrain will lead to the development of a comprehensive nationwide database that provides information in the long run, would facilitate the increased allocation of funds for sustainable development of the kingdom, and would determine the most critical environmental issues in Bahrain and provide remedial direction.

2.6.7 Green Process and Procedures of Banks

Before exploring banks' green processes and procedures, it is essential to differentiate between the two terms. Processes refer to a series of actions or steps to achieve a particular outcome, while procedures are specific methods or instructions for carrying out those processes (Parmenter, 2015). In green banking, processes could encompass the overall strategies and initiatives to promote environmental sustainability, such as implementing

environmental risk assessments or developing green financial products. On the other hand, procedures would be the detailed guidelines and protocols followed in executing these processes, such as paperless banking operations or using renewable energy sources in bank branches.

In the banking sector of the Kingdom of Bahrain, various green processes and procedures are implemented by different banks to promote corporate social responsibility (CSR) in environmental and social areas. For example, Al Baraka Banking Group, a Bahrain-based Islamic bank, has implemented a "Go Green" initiative that reduces paper consumption, promotes energy efficiency, and encourages environmentally friendly practices among employees (Al Baraka Banking Group, 2020). Similarly, the National Bank of Bahrain (NBB) has launched a "Sustainability Financing" program that offers preferential rates and fees for projects that promote sustainable development (National Bank of Bahrain, 2021). CSR is a business practice that involves producing eco-friendly products and services and providing financial support for community projects and organizations (United Nations Development Programme, n.d.). Banks, as institutions that hold the economy's financial assets and have decision-making power to allocate funds at micro levels, play a crucial role in investing in assets that benefit the environment (Ali & Oudat, 2020).

Green banking is defined as promoting environmentally friendly investments and concern for developing a clean and safe society, which is integrated into all business dealings with stakeholders at both micro and macro levels through various green processes and procedures (Saeed & Mansor, 2021). These processes and procedures may include implementing environmental risk assessment in lending decisions, developing green financial products, and adopting sustainable practices in internal operations. This self-regulating policy for the banking sector aims to

protect nature and improve environmental conditions, which aligns with the Kyoto Protocol's goal of combating global warming and climate change. Green banking involves taking preventive or corrective actions to avoid damage to the environment, society, or future generations, such as promoting new ideas, financing replacement activities, and phasing out or changing existing activities through green processes and procedures (Saeed & Mansor, 2021). For example, banks may implement paperless banking processes, use renewable energy sources in their branches, or provide loans with lower interest rates for environmentally friendly projects as part of their green banking procedures.

The success of banks' green processes and procedures depends on various factors, including compliance with global environmental management standards, external pressures from stakeholders, customers, and shareholders, and the view of corporate social responsibility (Julia & Kassim, 2020). CSR is the commitment of businesses to contribute to sustainable development by working with employees, their families, the local community, and society to improve their quality of life (Idowu & Papasolomou, 2007). Host country regulations and policies also greatly influence how banks utilize green policies (Julia & Kassim, 2020).

Green processes and procedures employed by banks aim to reduce the negative impact of current business activities on the environment. This can be achieved through building environmental management systems, developing products that reduce environmental damage, more effective use of resources (particularly energy and water), waste reduction and management, pollution prevention, and raising internal and external awareness of environmental and sustainable development issues (Sharma & Choubey, 2022). Banks can ensure sustainable future development by

integrating CSR principles into their decision-making and strategic plans (Sharma & Choubey, 2022).

Measuring the effectiveness of green processes and procedures can be challenging, as it is difficult to determine if the changes are permanent and genuinely beneficial for the environment (Sharma & Choubey, 2022). However, certain quantifiable factors can be used to assess the impact of these initiatives. For example, changes in resource consumption, waste management costs, and energy usage can be measured to evaluate if resources are utilized more effectively and if environmentally damaging products are being phased out.

To illustrate, a study by Galpin et al. (2015) examined implementing sustainability practices in various organizations. The researchers found that incorporating sustainability into the organization's mission and values, setting clear goals, and regularly measuring progress improved environmental performance and employee engagement. This demonstrates how organizations can measure and track environmental performance improvements through quantitative metrics and qualitative observations of behavioral changes.

Implementing green processes and procedures can create green products that provide a competitive advantage for banks. Studies suggest consumers increasingly base their purchase and consumption decisions on environmental aspects and seek greener alternatives (Laroche et al., 2001; Ottman, 2011, as cited in Zhang & Dong, 2020). By providing and communicating details on their environmental initiatives, banks can influence customers' buying decisions towards their products and services (Zhang & Dong, 2020).

The connection between green processes and procedures and financial performance is critical for research in this area. Several studies have found

a positive relationship between eco-friendly processes and procedures, program outcomes, profitability, and the successful implementation of green banking practices (Reddy & Rajan, 2016, as cited in Zhang et al., 2022; Hanif & Jafari, 2013; Hsiao et al., 2010, as cited in Almeer & Almaamari, 2022). This suggests that the efforts of governments and central banks to encourage the implementation of green banking practices can lead to increased profitability and a positive impact on the environment (Almeer & Almaamari, 2022).

Green processes and procedures in banking involve a range of activities to reduce the negative environmental impact of business operations. These include implementing environmental management systems, developing eco-friendly products and services, promoting resource efficiency, reducing waste, preventing pollution, and raising awareness of environmental and sustainable development issues. The success of these initiatives depends on various factors, such as compliance with global standards, external pressures from stakeholders, and the integration of CSR principles into decision-making and strategic planning. Measuring the effectiveness of green processes and procedures can be challenging. However, studies like Bose et al. (2021) have shown that they can lead to cost savings, improved resource management, and a competitive advantage for banks. Importantly, research suggests a positive relationship between eco-friendly processes and procedures and financial performance, indicating that green banking practices can lead to increased profitability and a positive environmental impact.

2.7 Green Perceived Value

Green perceived value, which is the mediator variable in the research, refers to the perceived worth and benefits attributed to products or services that are environmentally friendly and sustainable. It encompasses

consumers' positive perception and appreciation of eco-friendly offerings, including energy efficiency, waste reduction, carbon footprint, and ethical sourcing (Abdou et al., 2022). Consumers increasingly prioritize green perceived value in their purchase decisions, as it aligns with their values and contributes to a healthier and more sustainable planet. Companies prioritizing green perceived value not only cater to the growing demand of eco-conscious consumers but also enhance their brand reputation and gain a competitive edge in the market (Luo et al., 2022).

Green perceived value is a multidimensional construct that captures the overall worth consumers attribute to eco-friendly products or services based on their assessment of the net benefits gained (Chen & Chang, 2012). It goes beyond the mere functional value of a product and encompasses emotional, social, and epistemic value dimensions (Sangroya & Nayak, 2017). Emotional value refers to consumers' positive feelings and satisfaction from using environmentally friendly products. In contrast, social value relates to the enhanced social image and self-concept congruence associated with green consumption (Lin & Huang, 2012). Epistemic value, conversely, stems from the novelty and knowledge-seeking aspects of engaging with eco-friendly offerings (Gonçalves et al., 2016). Together, these dimensions contribute to the overall green perceived value, which has been found to significantly influence consumers' purchase intentions, satisfaction, and loyalty towards environmentally sustainable products and services (Lim et al., 2020).

When a bank provides environmentally friendly loans (EFLs) to their clients for various purposes, such as financing a green car, constructing a green home, or starting an eco-friendly business, customers are willing to pay more interest for a green home loan due to long-term cost efficiency. The energy savings from a green home typically outweigh the higher

interest payments over time. Additionally, green homes may appreciate faster in value and often qualify for tax incentives, further offsetting the higher interest rate. Customers are willing to pay less interest on a loan for a gas-efficient vehicle because the benefits are more immediate, and the loan term is usually shorter. The fuel savings are instant and easily quantifiable, reducing the need for additional financial incentives. Moreover, the rapidly evolving technology in the automotive industry means today's efficient cars may become outdated quickly, making lower interest rates more attractive to borrowers. Through EFLs, customers may decrease their energy consumption, water, or other natural resources. EFLs show how the bank can help the environment and promote economic development. This, in turn, builds a positive customer perception of the value of the bank's products and services (Jin et al., 2022).

Providing EFLs can increase competitive advantage as it is a relatively new market with growing demand (Laroche et al., 2001). If done successfully, it will increase the bank's competitive advantage compared to other banks by capturing market share and attempting to retain and maintain more profitable customer relationships (Nemteanu & Dabija, 2021).

Product attributes, consumer trust and loyalty towards the brand, and consumer involvement in environmental causes can influence the perception of environmental value. The product's attribute refers to its physical and emotional benefits, which can significantly affect a consumer's decision to purchase a green product rather than a conventional product (Rex et al., 2005; Panda et al., 2020).

Green perceived value can mediate between green banking initiatives and customer satisfaction, loyalty, and financial performance. When banks implement green banking practices and offer environmentally friendly

products and services, it positively influences customers' perceptions of their environmental commitment and the value they receive from engaging with the bank. This increased perceived value of green leads to higher customer satisfaction, as customers feel that their environmental concerns are being addressed and contribute to a more sustainable future by choosing the bank's services (Yadav & Pathak, 2016).

Moreover, green perceived value can mediate the relationship between green banking initiatives and customer loyalty. Customers who perceive a higher value in the bank's eco-friendly offerings are likelier to continue using the bank's services and recommend them to others, increasing customer retention and positive word-of-mouth (Chen, 2010). This loyalty, in turn, can contribute to the bank's financial performance, as loyal customers generate more revenue and have lower servicing costs (Martínez & Rodríguez del Bosque, 2013).

In the context of this thesis, green perceived value will be employed as a mediator variable to investigate the relationship between green banking initiatives and customer outcomes, such as satisfaction and loyalty. By examining the mediating role of green perceived value, the study aims to provide a more comprehensive understanding of how banks' environmental practices and offerings influence customers' perceptions and behaviors. This approach is grounded in the existing literature, which suggests that green perceived value is a crucial intermediary in the link between organizations' green strategies and consumer responses (Chen et al., 2015; Ng et al., 2020). By incorporating this variable as a mediator, the thesis seeks to contribute to the growing knowledge of sustainable banking. It offers valuable insights for banks looking to enhance their green marketing efforts and foster long-term customer relationships.

In the following sections, we will delve into the key variables of this study. The independent variables are green banking initiatives and Environmental, Social, and Governance (ESG) factors. Green banking initiatives encompass various environmentally friendly practices and offerings adopted by banks, while ESG factors represent the bank's sustainability and social responsibility performance. These variables are expected to influence customers' perceptions of the bank's environmental commitment and the value they derive from engaging with the bank, which is captured by the mediating variable, green perceived value. The dependent variable in this research is the bank's financial performance, a critical indicator of the institution's overall success and sustainability.

2.8 Financial Performance of Banks

Financial performance is a multifaceted concept that encompasses several key aspects. It reflects an organization's ability to generate profits and create shareholder value by effectively managing financial resources and operations. This includes measurement of profitability, efficiency metrics, ability to meet financial obligations, and overall financial health indicators.

Various scholars have contributed distinct perspectives to understanding financial performance. Titman et al. (2018) emphasize profit generation and shareholder value creation, while Kimmel et al. (2009) focus on profitability, efficiency, and meeting financial obligations. Brigham and Ehrhardt (2020) highlight resource utilization and cost management aspects. Penman (2013) considers achieving financial objectives and goals, and Wahlen et al. (2018) address overall financial health evaluation through various indicators.

Financial performance measurement relies on several key metrics: financial profitability, sales growth, profit growth, return on assets (ROA),

and return on equity (ROE). These metrics provide comprehensive insight into an organization's financial health and operational effectiveness.

Financial performance has three distinct dimensions. Economic performance refers to income generated from banking activities. Social performance encompasses public welfare and sustainable development initiatives. Environmental performance focuses on managing environmental impact and implementing sustainable practices.

Two main approaches are used in measuring financial performance. Accounting measures capture past and present performance through traditional financial metrics. Based on stockholder wealth maximization and market efficiency principles, market measures provide forward-looking insights into organizational performance.

This thesis specifically focuses on the economic aspect of financial performance, utilizing established banking metrics through primary data collection via questionnaires. This focused approach enables a targeted analysis of the relationship between green banking initiatives and financial performance while acknowledging the interconnected nature of economic, social, and environmental dimensions.

Environmental performance in banking has become increasingly significant. It encompasses the implementation of green banking practices, financing of renewable energy projects, promotion of eco-friendly products and services, and efforts to reduce carbon footprint. These initiatives reflect the growing importance of sustainable practices in the banking sector while maintaining strong financial performance.

2.9 Summary

Chapter 2 critically reviews the literature on the performance of banks that have adopted green banking initiatives. The literature lacks consensus

on whether green banking initiatives translate into improved financial performance. While growing interest is in implementing green banking, banks face challenges that hinder such initiatives. The chapter identifies factors contributing to these challenges, such as sustainability factors (ESG), environmental policies and goals, green lending, green products and services, green processes and procedures, and green banking perceived value.

The chapter begins with an overview of green banking, its definitions, importance, and the benefits and challenges banks face when pursuing green initiatives. It then delves into the key variables of the study: green banking initiatives (environmental policies and goals, green lending, green products and services, and green processes and procedures) and ESG factors (environmental performance, social performance, and governance). These variables are expected to influence customers' perceptions of the bank's environmental commitment and the value derived from engaging with the bank, captured by the mediating variable, green perceived value. The dependent variable is the bank's financial performance.

The literature review covers these variables in detail, discussing their characteristics, benefits, implementation challenges, and real-world examples from different countries and financial institutions. It also examines the relationship between these variables and financial performance, highlighting the mixed results found in previous studies.

The chapter concludes by discussing financial performance's economic, social, and environmental aspects, focusing on the economic aspect measured by financial profitability, sales growth, profit growth, ROA, and ROE. The author justifies this focus, arguing that these well-established metrics provide a solid foundation for assessing banks'

financial health and performance, allowing for targeted analysis of the relationship between green banking initiatives and financial performance.

Chapter 3

Research Methodology

3.1 Introduction

Research methodology is a crucial component of any academic study, as it outlines the systematic approach employed to gather, analyze, and interpret data to address the research questions and test the hypotheses. This chapter presents the research methodology adopted for this thesis, which aims to investigate the relationship between green banking initiatives, ESG factors, green perceived value, and financial performance in the context of the banking sector in the Kingdom of Bahrain.

The research employs a quantitative approach, specifically the Structural Equation Modeling with Partial Least Squares (SEM-PLS) method, to examine the complex relationships among the study variables. SEM-PLS is a powerful statistical technique that allows for the simultaneous analysis of multiple relationships between latent constructs while accounting for measurement errors (Hair et al., 2017). This method is particularly suitable for this study, as it enables the examination of both the direct and indirect effects of green banking initiatives and ESG factors on financial performance, with green perceived value as a mediating variable.

The study relies on primary data collected through a structured questionnaire administered to a sample of employees from various banks in Bahrain. The questionnaire captures respondents' perceptions and experiences of green banking initiatives, ESG factors, green perceived value, and financial performance. Using primary data ensures that the information gathered is current, relevant, and specific to the research context (Saunders et al., 2019).

This chapter discusses the research philosophy and approach underpinning the study. It then follows a detailed description of the research design, including the sampling technique, data collection procedure, and questionnaire development. The operationalization of the study variables and the measurement scales used in the questionnaire are also presented. Furthermore, the chapter elaborates on the data analysis techniques employed, focusing on the SEM-PLS method and its suitability for this research.

This chapter also addresses the ethical considerations and measures taken to ensure the confidentiality and anonymity of the participants. Finally, the limitations of the research methodology are acknowledged, and strategies to mitigate their impact on the study's findings are discussed.

This chapter provides a comprehensive and transparent account of the research methodology. It lays the foundation for the subsequent data analysis and discussion of the findings, ensuring the credibility and reliability of the research outcomes.

3.2 Research Methodology:

According to Saunders et al. (2019), seven research methodologies exist. This section will examine each method and explain why the approach selected is most suitable for this study on green banking initiatives and financial performance in Bahrain's banking sector.

Experimental Research Methodology

An experimental research methodology concerns the relationship between two or more variables. While the current study examines the relationship between green banking initiatives and financial performance, it is not experimental due to the absence of experimental and control groups. Additionally, unlike most experimental research methodologies, it

does not isolate the issue of green banking and financial performance from its social context (Bryman & Bell, 2018). As a result, the current study does not employ the experimental research approach.

Case Study Methodology

Saunders et al. (2019) describe a case study as a research approach employing diverse information to empirically analyze a contemporary topic in its real-world setting. They assert that the capacity to examine the issues at hand is typically limited by the number of variables for which the data will be obtained. The scope of the current study is not limited to a single institution, so the case study methodology cannot be used.

Action Research Methodology

An action research methodology has a unique appeal because it entails an in-depth analysis of a subject under inquiry in conjunction with close cooperation between those concerned with the problem area, green banking, and the researcher. It is, however, iterative in nature, as the procedure of gathering and analyzing data on the issue under inquiry is repeated to assess whether or not the problem has been resolved (Saunders et al., 2019). Though this research method is advantageous because it entails in-depth examination, the current research does not address any pressing issues. Instead, it seeks to examine the link between green banking initiatives and financial performance among banks in Bahrain without necessarily resolving the underlying issues associated with those variables. As a result, the current study does not employ an action research technique.

Grounded Theory Research

Grounded theory research focuses on developing theories and is mainly inductive. The present study is deductive, seeking to test rather than

establish a theory. As a result, the grounded theory research approach is not used.

Ethnographic Research

The ethnographic research technique is similarly based on an inductive approach and aims to depict social reality. Additionally, it requires considerable time since researchers must immerse themselves in the social reality under examination to comprehend it (Saunders et al., 2019). The researcher does not attempt to construct a theory to describe a social environment; the current study does not employ an ethnography research methodology.

Archival Research

An archival research methodology draws its data from organizational papers and records. The present study analyzes data without utilizing an archival research methodology.

Survey Research Methodology

The current study employs a predominantly deductive survey research methodology. This methodology is frequently used in business and management research to address how, how much, how many, what, where, and who types questions (Saunders et al., 2019). Unlike the other methodologies, it enables researchers to acquire enormous volumes of data from relatively small sample sizes. It fits within the scope of the current project, which aims to collect vast volumes of data from a few research participants in Bahrain's banking sector.

Most people view questionnaires as authoritative, encouraging the researcher to use them to gather data in this study. Another critical aspect of this method of research that qualifies it for the current research is its

capacity to collect and analyze quantitative data utilizing inferential and descriptive statistics.

Additionally, a significant component of this technique is that the data collected might provide plausible explanations for the link between distinct factors. In this regard, the study might shed light on the link between green banking initiatives and financial performance within the environment of banks in Bahrain. The current study used a survey research method since it allowed the researcher greater control over the research procedures. Consequently, the researcher provided findings that accurately represented Bahraini banks at a far lower cost than alternative methodologies.

This survey research methodology will enable the study to effectively address its research questions and objectives, providing insights into the relationship between green banking initiatives and financial performance in Bahrain's banking sector.

3.3 Research Philosophy and Approach

A research philosophy represents the fundamental beliefs and assumptions about the nature of knowledge and how it can be acquired (Saunders et al., 2019). Establishing a study's philosophical foundation is essential, as it influences the research approach, design, and methods employed.

This study is grounded in the positivist research philosophy, which assumes that reality is objective, measurable, and independent of the researcher (Creswell & Creswell, 2018). Positivism emphasizes using scientific methods to gather and analyze data to uncover causal relationships and generate generalizable knowledge. This philosophy aligns with the quantitative nature of this research, which seeks to examine

the relationships between green banking initiatives, ESG factors, green perceived value, and financial performance through statistical analysis.

The choice of positivist philosophy over alternative philosophical approaches (such as interpretivism or critical realism) was driven by several key factors. First, this study examines objective relationships between measurable variables (green banking initiatives and financial performance), aligning with positivism's emphasis on observable phenomena (Saunders et al., 2019). Second, the research seeks to test hypotheses derived from existing theories rather than building new theories (which would better suit an interpretivist approach) or examining underlying mechanisms (which would align with critical realism) (Bryman & Bell, 2018). Third, the banking sector's quantifiable nature, mainly regarding financial performance metrics and standardized green banking practices, makes positivism's scientific approach most appropriate (Creswell & Creswell, 2018). Fourth, the need for generalizable findings to inform banking policy and practice in Bahrain and potentially other Gulf countries further justifies the positivist approach.

Consistent with the positivist philosophy, this study adopts a deductive research approach. The deductive approach involves developing hypotheses based on existing theories and testing them through empirical observation (Bryman, 2018). In this thesis, the hypotheses regarding the relationships between the study variables are derived from the literature review and the proposed conceptual framework. These hypotheses are tested using primary data collected through a structured questionnaire, allowing for the confirmation or rejection of the theoretical propositions.

The deductive approach is characterized by a structured methodology, a focus on quantitative data, and the need for a large sample size to ensure generalizability (Saunders et al., 2019). This study adheres to these

principles by employing a structured questionnaire to gather quantitative data from a sample of employees in the Bahraini banking sector. Using the SEM-PLS method for data analysis further aligns with the deductive approach, as it allows for simultaneously testing multiple hypotheses and assessing the model's fit with the observed data.

By adopting a positivist philosophy and a deductive approach, this research aims to contribute to the existing body of knowledge on green banking and its impact on financial performance, providing empirical evidence to support or refute the proposed theoretical relationships. This philosophical foundation and research approach guide the subsequent choices related to research design, sampling, data collection, and analysis, ensuring a coherent and rigorous methodology for addressing the research questions.

3.3 conceptional Framework

The banking industry is crucial in promoting sustainable development by adopting green initiatives and integrating Environmental, Social, and Governance (ESG) factors into their operations (Chen et al., 2022; Jain & Sharma, 2023). This research investigates the direct relationship between ESG factors, green banking initiatives, and the financial performance of banks in the Kingdom of Bahrain. Additionally, the study explores the indirect relationship between these factors and financial performance through the mediating role of green perceived value.

Green banking practices, or green initiatives, are crucial to banks' sustainability perspectives (Chen et al., 2022; Jain & Sharma, 2023). Among the various factors affecting green banking practices, green perceived value has been identified as a key factor influencing customer adoption of green products (Doszhanov & Ahmad, 2015). Green perceived

value is considered essential as it can impact consumer trust (Kim, 2008), purchase intention, long-term consumer relationships (Zhuang, 2010), and awareness of social value. Kim (2008) argued that green perceived value is one of the most critical factors for green users.

Based on the arguments of Jain and Sharma (2023), who posited that ESG factors affect green practices, Similarly relying on the work of Malsha et al. (2020), who identified four green banking practices (environmental policies and goals, green lending, green products and services, and green processes and procedures), the following direct relationships can be established that Environmental performance → Financial performance, Social performance → Financial performance, Governance → Financial performance, Environmental policies and goals → Financial performance, Green lending → Financial performance, Green products and services → Financial performance, Green process and procedures → Financial performance.

Furthermore, the indirect relationship between ESG factors, green banking initiatives, and financial performance through green perceived value can be examined. The literature suggests that ESG factors and green practices influence green perceived value, which in turn can affect the financial performance of banks (Lam et al., 2016; Wungkana et al., 2023). Thus, the following indirect relationships can be established: Environmental performance → Green perceived value → Financial performance, Social performance → Green perceived value → Financial performance, Governance → Green perceived value → Financial performance, Environmental policies and goals → Green perceived value → Financial performance, Green lending → Green perceived value → Financial performance, Green products and services → Green perceived

value → Financial performance, Green process and procedures → Green perceived value → Financial performance.

In this study, green banking perceived value serves as a key mediating variable between ESG sustainability practices, green banking initiatives, and banks' financial performance. This approach is vital because initial analyses might show weak or insignificant direct relationships between ESG factors or green initiatives and financial performance metrics like ROA, ROE, or market share. However, by introducing green banking's perceived value as a mediator, we may uncover significant indirect effects that were not apparent in the direct analysis, sparking intrigue and a desire for further exploration.

For instance, while the direct impact of green financing or environmental policies on a bank's ROA might appear negligible, these initiatives could significantly enhance the perceived value of the bank's green efforts. This enhanced perceived value, in turn, could lead to improved financial performance through increased customer loyalty, better risk management, or the auspicious outcome of enhanced reputation. By accounting for this mediating variable, our research can validate relationships that initially seemed invalid or insignificant, providing a more accurate and clear understanding of how sustainability efforts translate to financial outcomes in Bahrain's banking sector.

The conceptual framework presented in Fig 6 illustrates these relationships, highlighting the direct impact of ESG factors and green banking initiatives on the financial performance of banks in the Kingdom of Bahrain and the indirect relationship through the mediating role of green perceived value.

This conceptual framework, supported by relevant literature, provides a clear foundation for investigating the direct and indirect relationships

between ESG sustainability practices, green banking initiatives, green perceived value, and financial performance in the context of Bahraini banks.

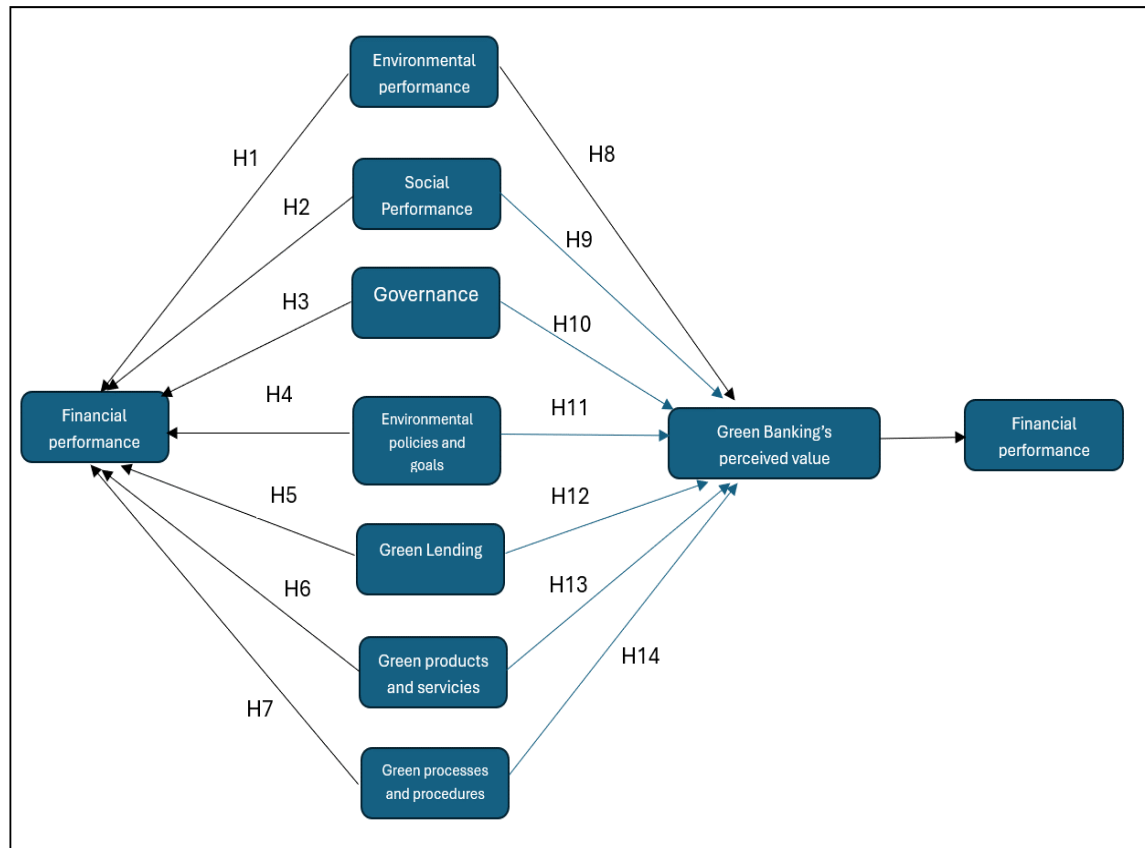


Fig (6): Conceptual Model

3.4 Hypothesis Development

Based on the research objectives and questions, this study proposes several hypotheses to investigate the relationships between ESG sustainability practices, green banking initiatives, green banking perceived value, and the financial performance of banks in Bahrain. The hypotheses are grounded in existing literature and theoretical frameworks, particularly stakeholder, legitimacy, and institutional theories.

Direct Relationships:

H1: The bank's Environmental performance directly influences the bank's

financial performance. It has been increasingly recognized as a crucial factor affecting a bank's financial performance. Sangiseti and Venkata (2022) argue that environmentally friendly investments and bank activities can improve financial outcomes. This hypothesis is supported by the stakeholder theory, which suggests that addressing environmental concerns can enhance a bank's reputation and stakeholder trust, potentially leading to better financial performance (Freeman & Mcvea, 2001).

H2: The bank's social performance of the bank directly influences the bank's financial performance. A significant ESG framework component is pivotal in shaping a bank's overall performance. Mir and Bhat (2022) underscore the importance of social responsibility in achieving sustainability goals, a perspective that aligns with the legitimacy theory. This theory suggests that banks meeting societal expectations regarding social performance may secure better access to resources and improved financial outcomes (Suchman, 1995).

H3: The bank's governance directly influences the bank's financial performance. Good governance practices are a regulatory requirement and a cornerstone for effective risk management and long-term financial stability. Bouteraa et al. (2022) stress the crucial role of governance in sustainable banking practices. This view is supported by institutional theory, which suggests that robust governance structures can enhance a bank's legitimacy and, consequently, its financial performance (Scott, 2014). This emphasis on governance should reassure the audience about the financial sector's stability.

H4: The bank's environmental policies and goals directly influence its financial performance. Clear environmental policies and goals can guide a bank's sustainable practices and potentially impact its financial performance. Rehman et al. (2021) argue that adopting green banking practices, including

environmental policies and goals, can positively influence a bank's environmental performance and, by extension, financial performance. This suggests that well-defined environmental policies and goals could help banks mitigate risks and capitalize on opportunities related to sustainability, ultimately leading to improved financial outcomes.

H5: Green lending directly influences the bank's financial performance. Green lending practices can affect a bank's risk profile and financial outcomes. Batae et al. (2021) and Gangi et al. (2019) found that offering loans to eco-friendly firms can lower banks' risk-taking and encourage innovative projects, potentially leading to improved financial performance. This potential for improved financial performance should instill hope about the future of the banking industry.

H6: Green products and services of the bank directly influence the bank's financial performance. Green products and services can differentiate a bank in the market and potentially impact its financial performance. Sangiseti and Venkata (2022) argue that such initiatives ensure that banks finance environmentally responsible industries and businesses, which could lead to enhanced financial outcomes.

H7: Green processes and procedures of the bank directly influence the bank's financial performance. Implementing green processes and procedures can affect a bank's operational efficiency and, consequently, its financial performance. Shaumya and Arulrajah (2017) suggest that adopting green banking practices can lead to cost savings and improved financial outcomes in the long run.

Mediating Relationships:

H8-H14: Green banking's perceived value mediates the relationship between ESG sustainability factors, green banking initiatives, and the

bank's financial performance. These hypotheses propose that the perceived value of green banking initiatives mediates the relationship between various ESG and green banking practices and financial performance. While direct relationships between these variables have been studied (e.g., Javaid & Al-Malkawi, 2018; Platonova et al., 2018), the mediating role of perceived value is less explored.

This set of hypotheses is grounded in stakeholder and legitimacy theory, suggesting that the perceived value of green banking initiatives may influence how ESG factors and green banking initiatives translate into financial performance. These hypotheses will be tested using appropriate statistical methods to provide insights into the complex relationships between ESG factors, green banking initiatives, perceived value, and financial performance in the context of Bahraini banks.

3.5 Research Design

This study employs a quantitative research design. Primary data was collected using a questionnaire to examine the relationship between green banking initiatives, ESG, and financial performance in the Kingdom of Bahrain's banking sector.

3.5.1 Quantitative Approach:

The study utilizes a cross-sectional survey design, which allows data to be collected from a large sample of banks simultaneously. This approach enables the examination of relationships between variables and the testing of hypotheses. The survey was distributed to key personnel in various banks across Bahrain, including managers and executives involved in green banking initiatives and financial decision-making.

3.5.2 Statistical Analysis Approach

While several statistical techniques were considered for this study, including multiple regression analysis, ANOVA, and covariance-based SEM (CB-SEM), PLS-SEM was selected following Hair et al.'s (2017) recommendations for the following reasons:

- Ability to handle complex models with multiple mediating relationships
- Suitability for smaller sample sizes compared to CB-SEM
- Capability to analyze non-normal data distributions
- Superior handling of formative measurement models
- Better suited for prediction-oriented research

Alternative techniques were less suitable because Multiple regression cannot simultaneously test multiple dependent variables (Hair et al., 2017). ANOVA cannot effectively measure mediating effects (Kline, 2015). CB-SEM requires larger sample sizes and stricter normality assumptions (Hair et al., 2019).

3.5.3 Survey Instrument:

The survey instrument is designed to measure the following key variables, which include four parts. The first one was the demographic Variables, which include age, gender, education level, position in the bank, and years of experience in the banking sector. The second part was the Independent Variables, Environmental performance, Social Performance, Governance, Green lending, Environmental policies and goals, Green products and services, and Green processes and procedures. The third part was Dependent Variable, Perceived Financial Performance metrics (Return on Assets, Return on Equity, Market Share). The last part was the Mediating Variable: Green Banking Perceived Value. Likert scales will measure respondents' perceptions and attitudes towards these variables.

3.5.4 Data Collection:

The survey was administered electronically to ensure efficient data collection and to reach a wide range of respondents across different banks in Bahrain in cooperation with the Bahrain Association of Banks (BAB). Appropriate measures were taken to ensure data privacy and confidentiality.

The distribution of questionnaires was facilitated through a structured collaboration with the Human Resources departments of participating banks, following established research protocols (Bryman & Bell, 2018). HR departments played a crucial role in: [points remain the same]

This systematic approach through HR departments helped maintain professional distance between the researcher and respondents, reducing potential bias while ensuring appropriate participant selection (Hair et al., 2019).

3.5.5 Data Analysis:

The collected data was analyzed using various statistical techniques. Descriptive statistics is used to summarize the characteristics of the sample and provide an overview of the responses. Correlation analysis is conducted to examine the relationships between the variables. Structural equation modeling (SEM) tests the direct effects of ESG sustainability and green banking initiatives on financial performance and the mediating role of Green Banking Perceived Value in the relationships between ESG sustainability factors, green banking initiatives, and financial performance.

This quantitative research design aligns with the study's objectives and theoretical framework, allowing for a systematic examination of the relationships between green banking initiatives, ESG factors, and financial performance in the Bahraini banking sector. The design enables the

collection of a large amount of standardized data, facilitating statistical analysis and the generation of generalizable findings.

The results from this quantitative approach will provide empirical evidence to address the research questions and contribute to the understanding of green banking's impact on financial performance in Bahrain's banking sector.

3.6 Sampling Technique and sample size

To determine the appropriate sample size for the Structural Equation Modeling (SEM) analysis, a power analysis was conducted using G*Power 3.1 software (Faul et al., 2009). The power analysis employed the linear multiple regression: fixed model, R^2 deviation from zero test, which is suitable for SEM analyses that involve multiple predictors and a continuous outcome variable (Kline, 2015).

The following parameters were input into the G*Power software (Effect size (f^2) = 0.15 (medium effect), α error probability = 0.01, Power ($1 - \beta$ error probability) = 0.95, Number of predictors = 7).

The choice of these parameters was based on several considerations. A medium effect size ($f^2 = 0.15$) was selected to represent a realistic expectation for many social science and business research contexts (Cohen, 1988). The α error probability was set at 0.01, more stringent than the conventional 0.05 level, to reduce the risk of Type I errors and increase confidence in significant findings (Tabachnick & Fidell, 2019). A high power of 0.95 was chosen to minimize the risk of Type II errors and ensure a substantial likelihood of detecting actual effects in the population (Murphy et al., 2014). The number of predictors (7) corresponds to the independent variables in the study.

Using these parameters, the power analysis yielded a recommended sample size of 198 participants. This result aligns closely with the commonly used rule of thumb in SEM, which suggests having 20 participants per predictor (Kline, 2015). In this case, with seven predictors, the rule of thumb would recommend a sample size of $7 * 20 = 140$ participants. The power analysis result 198 exceeds this rule of thumb, providing a more conservative and statistically robust sample size estimate.

The larger sample size recommended by the power analysis (198 compared to 140) can be attributed to the stricter criteria used, particularly the higher power (0.95) and lower α error probability (0.01). This more stringent approach enhances the reliability and generalizability of potential findings, reducing the risk of Type I and Type II errors (Tabachnick & Fidell, 2019).

It is worth noting that while the rule of thumb provides a quick and easy guideline, the power analysis offers a more precise and tailored estimate based on specific study parameters. In this case, the power analysis suggests a sample size approximately 41% larger than the rule of thumb, highlighting the importance of conducting formal power analyses in research design (Wolf et al., 2013).

The formula used by G*Power for this analysis is based on the F-distribution and involves calculating the non-centrality parameter λ and critical F-value. The general form of the equation is:

$$n = (\lambda / f^2) + k + 1$$

Where:

n = required sample size

λ = non-centrality parameter

f^2 = effect size

k = number of predictors

The non-centrality parameter λ is determined iteratively based on the specified α , power, and degrees of freedom (Faul et al., 2009).

This comprehensive approach to power analysis ensures that the SEM analysis will have sufficient statistical power to detect meaningful effects while maintaining a low probability of false positives. It aligns with best practices in structural equation modeling and quantitative research methodology (Hair et al., 2019; Wolf et al., 2013).

Regarding the sampling technique, this study employs convenience sampling, a non-probability sampling method. Convenience sampling involves selecting participants based on their accessibility and willingness to participate in the research (Etikan et al., 2016). This method was chosen due to its practical advantages in terms of time, cost, and ease of access to participants within the banking sector in the Kingdom of Bahrain.

While convenience sampling allows for efficient data collection, it is essential to acknowledge its limitations. The main drawback is the potential for selection bias, which may affect the sample's representativeness (Jager et al., 2017). To mitigate this, efforts were made to ensure a diverse range of participants from various banks and positions within the sector. Despite its limitations, convenience sampling is widely used in business and management research, particularly when studying specific industries or organizations (Saunders et al., 2019). This study provides valuable insights into green banking initiatives and their relationship with financial performance in Bahrain's banking sector.

The following table presents a comprehensive overview of the questionnaire distribution across various retail commercial banks in Bahrain. This distribution strategy was carefully designed to ensure a representative sample of the country's banking sector. Considering bank size, origin (Bahraini and non-Bahraini), market presence, and number of branches, the data

collection aimed to capture diverse perspectives and practices within Bahrain's retail commercial banking sector.

Table (1) Sample distribution across Banks.

#	Bank's name	Number of Branche's	Questionnaires distributed
1	Bahrain Islamic bank	9	15
2	Mashreq bank	1	5
3	Bank of Bahrain and Kuwait (BBK)	21	25
4	Hongkong and Shanghai Banking Corporation (HSBC)	2	5
5	National Bank of Bahrain (NBB)	23	30
6	Ahli United Bank (AUB)	20	25
7	Bahrain Development Bank (BDB)	4	10
8	Academic Bank of Credit (ABC)	1	5
9	Al-Salam Bank	24	33
10	Standard Chartered Bank Bahrain	3	10
11	Arab Bank	2	5
12	Citi Bank	1	5
13	Eskan bank	2	10
14	United Bank	3	15
	Total		198

The table includes Bahraini and non-Bahraini banks, providing insights into potential variations in approaches between local and international banking entities operating in Bahrain. The number of questionnaires distributed to each bank was determined proportionally to its size and significance in the market, ensuring that larger institutions with potentially more complex systems received more questionnaires. This distribution method captures a comprehensive and balanced view of practices across Bahrain's retail commercial banking sector.

As G* power decided the accurate sample size was 198, we ensured that the questionnaire received was equal to 198. We closed the Google form only after receiving the targeted size, which means we have a 100%

recovery rate. The researcher also received confirmation from the HR department regarding the number of questionnaires for each bank.

While surveying banking professionals provide valuable insights from those directly implementing green banking initiatives, potential biases should be acknowledged. Respondents may overstate their institutions' environmental commitments due to social desirability bias (Sekaran & Bougie, 2013). Additionally, their perspectives might not fully capture customer experiences with green banking products. However, their expertise and direct involvement in banking operations make them well-positioned to assess the relationship between green initiatives and financial performance (Hair et al., 2019).

3.6.1 Population Composition

The study population consisted of senior banking professionals from 14 banks operating in Bahrain, including conventional and Islamic banks. The focus on senior management (comprising managers, senior managers, and executives) was deliberate, as these individuals possess comprehensive knowledge of their institutions' green banking initiatives and financial performance. The distribution of respondents across management levels was as follows:

- Senior Managers: 38.9% (77 respondents)
- Managers: 38.4% (76 respondents)
- Assistant Managers: 19.7% (39 respondents)
- Executives: 1.0% (2 respondents)
- Deputy General Managers: 2.0% (4 respondents)

This hierarchical distribution ensures that responses come from individuals with decision-making authority and strategic oversight of green banking initiatives."

3.7 Questionnaire Measurement Scales

Banks' environmental, Social, and Governance (ESG) performance indicates the concern of banks in supporting industries that operate, taking into account the importance of the ESG factors (Nemoto & Liu, 2020). Each one of those factors is measured separately using the instruments provided below.

Banks' environmental performance indicates the support banks provide to industries to ensure environmental sustainability (e.g., reduction in carbon emission, energy requirements of products and services, waste reduction, waste recycling, etc.) (Daniel, 2023).

Constructs	Items	Source
EP1	My bank enabled reduction in carbon emissions through green banking activities.	(Daniel, 2023).
EP2	My bank reduces waste production as part of green banking practices.	
EP3	My bank is concerned about waste recycling as part of green banking practices.	
EP4	My bank is concerned about waste management as part of green banking practices.	
EP5	My bank's compliance with environmental standards improved through green banking practices.	
EP6	My bank ensured reduction in energy consumption in the bank significantly through green banking practices.	

The social performance of banks indicates the support provided by banks to industries to ensure social sustainability (e.g., consumer satisfaction, the image of the bank, the relationship between stakeholders like suppliers and customers, and compliance with social laws and regulations) (Daniel, 2023).

Constructs	Items	Source
SP1	My bank ensures better customers' satisfaction through green banking practices	(Daniel, 2023).
SP2	My bank's green banking practices have positive effect on the image of my bank	
SP3	My bank's green banking practices resulted in better relationship amongst the stakeholders.	
SP4	My bank's green banking practices resulted in increased compliance with applicable social laws and regulations.	

Governance of banks indicates the commitment of the bank to support the industries to ensure sustainable performance (e.g. initiating creative green finance policies, implementation of green finance policies, budgetary support for green finance practices, training to employees in green financing, monitoring and compliance with green finance practices and responsible behavior regarding sustainability) (Daniel, 2023; Yuan & Cao, 2022; Malsha et al., 2020).

Constructs	Items	Source
Gov1	Top management of my bank ensures creative green finance policies are initiated for their implementation.	(Daniel, 2023; Yuan & Cao, 2022; Malsha et al., 2020).
Gov2	Top management of my bank ensures budgetary support for green finance practices.	
Gov3	Top management of my bank ensures regular green finance training.	
Gov4	Top management of my bank ensures regular monitoring and compliance of bank green finance practices.	
Gov5	Top management of my bank behaves responsibly regarding sustainability.	

Green banking initiatives are activities of banks that enable the banks to indirectly contribute to the improvement of environment by making improvements in technological aspects, improvements in operations and changing habits of clients in the banking sectors. Those initiatives also enable banks to promote environment friendly products, processes and technology leading to reduction in carbon footprint (Shaumya & Arulrajah, 2016). Such initiatives are divided into four types namely environmental policies and goals, green lending, green products and services and green process and procedures (Malsha et al. (2020). Each one of the four types of green banking initiative measuring instruments are given below.

Environmental Policies and Goals describe the environmental management practices that banks will adopt and enforce, as required by laws governing environmental legislation. Concern over liability, direct and indirect costs of regulatory compliance, concern about overall firm competitiveness, and public concern about environmental degradation also determine the environmental policies and goals of the banks (Sheikh & Odock, 2019).

Constructs	Items	Source
EPG1	In my bank environment audit is done regularly.	(Sheikh & Odock, 2019).
EPG2	In my bank has put in place environmental (green) policy and pollution prevention plans.	
EPG3	My bank has a dedicated Environmental/Energy Manager.	
EPG4	My bank has entered into environmental related agreement stakeholders concerned (e.g. suppliers, customers, etc.).	
EPG5	My bank has implemented incentive programs for environmental suggestions provided by employees.	
EPG6	My bank has implemented green environmental performance evaluation practices (e.g. energy saving measures, environmental sustainability measures).	

Green lending involves making decisions by banks that take into account environmental protection in both commercial and wholesale banking (e.g., providing loans for environmental protection, energy-saving-related projects, site visits, assessing third-party reporting on loan proposals, accessing clients' environmental records, and promoting environmentally oriented firms that have facilities) (Malsha et al., 2020).

Constructs	Items	Source
GL1	In my bank the environmental records of clients are examined before lending.	(Malsha, et al. 2020).
GL2	In my bank third-party (Central Environmental Authority) reporting on loan proposal are assessed before lending.	
GL3	In my bank, loans are lent at low rates of interest to firms involved in environmental protection and energy-saving projects.	
GL4	In my bank, environmental-oriented firms are promoted through special grants, loans, and guidance.	

Green process and procedures involve adoption of operations that reduce the operational footprint impacts on the environment (e.g. adoption

of recycling programmes to energy conservation programmes) (Malsha, Arulrajah & Senthilnathan, 2020).

Constructs	Items	Source
GPS1	In my bank, investments are made in electronic and online banking services.	(Malsha, et al, 2020).
GPS2	In my bank, investments are made in mobile banking.	
GPS3	In my bank green deposit schemes are developed.	

Green processes and procedures involve the adoption of operations that reduce the operational footprint impacts on the environment (e.g., adoption of recycling programs to energy conservation programs) (Malsha, Arulrajah & Senthilnathan, 2020).

Constructs	Items	Source
GPP1	In my bank e-waste management practices are implemented.	(Malsha, et al, 2020).
GPP2	In my bank green branches involving energy efficient buildings are set up.	
GPP3	In my bank alternative means to paperwork are used (e.g. e-mails).	
GPP4	In my bank environmentally friendly banking practices are implemented (e.g. electronic statements, online approval systems etc.)	
GPP5	In my bank equipment, system solutions and practices that are used are energy efficient (e.g. ATMs, LED lighting, SWIFT transfer, etc.).	

Green banking perceived value is the general assessment of the net benefit of a service or a product by a customer based on the judgement of that customer is called perceived value. So in the case of a bank green banking perceived value is considered to be the net benefit of a service or a product offered by the bank as assessed by the customer based on the judgment of the customer. Examples of green banking perceived value could be using green banking products like green lending, electronic and online banking services, and mobile banking, which offer a net benefit to the customer in terms of environmental and social benefits as well as benefits accruing due to green governance of the bank.

Constructs	Items	Source
GBPV1	It makes sense to customers to use green banking products (example: use of online banking in place of in person banking) instead of other products because of its environmental commitments.	Chen & Change (2012)
GBPV2	Even if another banking product has the same features, customers would prefer to use banking products with environmental commitments (example use of mobile banking in place of banking using paper).	
GBPV3	Even if there is another banking product that is as good as green products in quality, customers prefer to use green one (example: green banking deposit scheme).	
GBPV4	If there is no environmental concern built into other banking products, customers feel that it is smarter to use green banking products (example: green mortgage).	

Bank financial performance is considered as the impact of business activity on stakeholder satisfaction (it could be the satisfaction of the owners, directors, employees, customers, and society in general) (Dixon et al., 1990). Employees in the banks were asked to grade their level of satisfaction with respect to financial profitability, sales growth, profit, growth, and profit/sales margin. Two more quantities, namely return on asset and return on equity, were added by the researcher.

Constructs	Items	Source
BFP1	Financial profitability	(Dixon et al., 1990)
BFP2	Sales growth	
BFP3	Profit growth	
BFP4	Return on asset	
BFP5	Return on equity	

3.8 The Study Instrument

The questionnaire was developed in stages until its final form (Appendix 1). Table (2) below shows the development stages for the questionnaire. The questionnaire was designed using previously validated tools from the literature (Malsha et al., 2020; Daniel, 2023; Yuan & Cao, 2022; Sheikh & Odock, 2019). The researcher adapted some questions to suit the Bahraini banking context.

Table (2) The development stages of the Questionnaire

No.	The development stages of the Questionnaire	Questions Numbers
1	Pre-Test stage	42
2	Pilot Survey stage	42
3	Main Survey stage	41

The Pilot Survey's questionnaire had 42 questions, including five demographic items. The demographic questions capture characteristics that reflect the sample's composition and distribution, including gender, level of education, age, years of experience in the banking sector, and position in the bank.

Respondents used the 5-point Likert scale to indicate their level of agreement or disagreement with each item in the conceptual model's constructs. The 5-point Likert scale is widely used as it allows respondents to easily comprehend the full range of response options. Moreover, empirical research has consistently shown that 5-point scales enhance reliability and validity compared to scales with fewer points (Dawes, 2008; Hair et al., 2019).

The final questionnaire for the main survey consisted of 41 questions (excluding demographic items) measuring the following constructs which include: Environmental Performance (6 items), Social Performance (4 items), Governance (5 items), Environmental Policies and Goals (5 items) One item was removed, Green Lending (4 items), Green Products and Services (3 items), Green Processes and Procedures (5 items), Green Banking Perceived Value (4 items), Bank Financial Performance (5 items). These constructs were carefully selected to address the research objectives and test the hypotheses developed in the conceptual framework.

3.9 Questionnaire Structure

A structured questionnaire was developed to measure the study's constructs. The structured questionnaire is divided into three main parts:

The first part is a welcome page that summarizes the questionnaire's purpose and the research's objective.

The second part consists of seven multiple-choice questions, each with a single answer, about demographic variables such as gender, educational level, age, years of experience in the banking sector, position in the bank, nationality, and type of bank (conventional or Islamic).

The final segment features 42 questions with interval-level responses on a 5-point Likert scale, addressing all nine components in the proposed conceptual model.

3.10 Pre-Test Result

Before the survey, a pre-test was undertaken for the questionnaire to confirm its content validity, eliminate repeating topics, and ensure that all items in the questionnaire were clear, consistent, and easily understood. The pre-test questionnaire contained 42 questions from previously published research and was adapted to the Bahraini banking context.

The pre-test of the questionnaire resulted in minor revisions to a few questions, including modifying and enhancing the wording and syntax used to construct the items. These revisions improved the clarity and relevance of the questions to the Bahraini banking sector.

The Deanship approved the final version of the questionnaire of Graduate Studies at the University of Bahrain. This rigorous pre-testing helped ensure the research instrument's validity and reliability before proceeding to the pilot study and main survey stages.

3.11 Pilot Study Outcomes

The researcher conducted a pilot study in preparation for the primary survey. The survey questionnaire was administered online through Google Forms, and the link was disseminated via email to managers, supervisors, and environmental specialists within the targeted banks with the help of the Bahrain Association of Banks (BAB). The researcher contacted these individuals directly or by sharing the survey's URL.

The researcher used SPSS software to perform the necessary statistical analysis to validate the conceptual model. The reliability and validity of the pilot study were assessed through testing, which involved establishing the range of minimum and maximum values based on previously published methodological literature in the field (Cohen, 1988; Pallant, 2016). Cronbach's alpha test was utilized to evaluate the internal consistency of the grouping of objects of each construct. Although Cronbach's alpha values can span from 0 to 1, a minimum value of 70% was considered acceptable during the pilot phase of the study (Sekaran & Bougie, 2013). Furthermore, the validity of the questionnaire was assessed using the Pearson correlation factor, which entailed comparing each item of the construct within the questionnaire to the total scores for each construct. The correlation between items also indicates their validity. Correlation coefficients range from -1 to 1, with negative values being disregarded. Based on previous research, correlation values between items were deemed acceptable at a minimum of 0.3. Similarly, according to Cohen (1988) and Sekaran and Bougie (2013), an item-to-total correlation of at least 0.5 is considered acceptable. During the pilot analysis, if an item was found to be problematic, i.e., below the acceptable value, the decision to retain or remove the item for assessing each construct was determined

by the degree to which the correlation value deviated from the acceptable threshold (i.e., 0.3 and 0.5) and the number of remaining items.

Table 3 below shows the summary of the reliability and validity analysis before deleting the item below the criteria followed by the study. Item Q18, from constructs 4, Environmental Policies and Goals, was deleted as it has significant issues regarding validity. By removing this item, we can enhance both reliability and validity without worrying about the number of items required to assess the insufficient constructs.

Table (3) Summary of reliability and validity analyses of the pilot study (for the original questionnaire before removing questions)

#	Construct	Constructs Codes	Items	Cronbach's Alpha	Correlation between Item-item (>0.3)		correlation between Item-total (>0.50)	
					Mini	Max	Min	Max
1	Environment Performance	EP	Q1-Q6	0.932	0.456	0.892	0.760	0.926
2	Social Performance	SP	Q7 –Q10	0.967	0.844	0.948	0.929	0.978
3	Governance	Gov	Q11 –Q15	0.920	0.628	0.853	0.861	0.897
4	Environmental Policies and Goals	EPG	Q16-Q21	0.900	0.073	0.845	0.678	0.946
5	Green Lending	GL	Q22-Q25	0.953	0.726	0.940	0.896	0.964
6	Green Products and Services	GPS	Q26-Q28	0.848	0.561	0.885	0.850	0.920
7	Green Processes and Procedures	GPP	Q29-Q33	0.915	0.518	0.950	0.792	0.914
8	Green Banking Perceived Value	GBPV	Q34-Q37	0.964	0.779	0.980	0.890	0.977
9	Bank Financial Performance	BFP	Q38-Q42	0.903	0.497	0.830	0.829	0.895
Note: For the construct (EPG), The reliability indicators, including the correlation of item-to-total and item-to-item correlation scores, are all within the allowed bounds except for Q18 (EPG3), where the correlation between Q16 and Q18, is less than 0.3, indicating that this Question should be deleted. For the main survey, all items will be preserved except for Q18. There are no changes for the other constructs, as all the indicators are within the accepted range.								

Table 4 below shows in construct 4 (EPG), Q16 and Q18 have an item-to-item correlation of less than 0.3. It was determined that this item (Q18) should be removed. Table 4 shows the validity and reliability after removing item 18, where all the indicators are in the accepted ranges.

**Table (4) Summary of reliability and validity testing of the pilot study
(after removing Q18)**

#	Construct	Constructs Codes	Items	Cronbach's Alpha	Correlation between Item-item (>0.3)		correlation between Item-total (>0.50)	
					Mini	Max	Min	Max
4	Environmental Policies and Goals	EPG	Q16-Q20*	0.911	0.437	0.925	0.711	0.949

*The range of questions changed after removing Q18.

The table 5 below Cronbach's alpha for all items within each construct for the whole sample is above 0.70 indicating that the instrument's reliability is satisfactory, as evidenced also by the pilot study findings.

Table (5) Cronbach Alpha for all the constructs using the whole sample

The Construct	Cronbach Alpha for the whole sample	Cronbach Alpha for the pilot sample
Environment Performance	0.981	0.932
Social Performance	0.976	0.967
Governance	0.976	0.920
Environmental Policies and Goals	0.969	0.900
Green Lending	0.976	0.953
Green Products and Services	0.948	0.848
Green Processes and Procedures	0.967	0.915
Green Banking Perceived Value	0.988	0.964
Bank Financial Performance	0.952	0.903

3.12 Ethical Considerations

This research adheres to strict ethical standards to ensure the integrity of the study and protect the rights and well-being of all participants. All participants were provided with detailed information about the study's purpose, procedures, and potential risks, and their informed consent was obtained before any data collection commenced.

The study implemented comprehensive data privacy and confidentiality measures to protect sensitive banking information. All data was collected through secure, encrypted platforms with participant anonymity maintained throughout the research process. Access to raw data was strictly limited to the primary researcher and supervisor, with all

information stored on password-protected servers. Survey responses were anonymized before analysis, and findings were presented only in aggregated form to prevent identification of individual participants or institutions (Saunders et al., 2019). All participants were informed of their right to withdraw from the study at any time.

Furthermore, participants were made aware that their participation was entirely voluntary, with the right to withdraw from the study at any time without facing negative consequences. The research also underwent thorough scrutiny by the Deanship of Graduate Studies at the University of Bahrain, which reviewed and approved the study to ensure full compliance with ethical guidelines. Transparency was upheld by accurately reporting the research methodology, data analysis procedures, and findings without manipulation or selective reporting. Lastly, any potential conflicts of interest were disclosed to preserve the objectivity and integrity of the research.

3.13 Chapter Summary

This chapter has provided a comprehensive overview of the research methodology employed in this study. We began by discussing the research philosophy and approach, justifying our choice of a design that combines quantitative data collection and analysis techniques.

The chapter then detailed the data collection methods, including surveys and semi-structured interviews, and outlined our sampling strategy to ensure a representative sample of Bahraini commercial banks. We described our data analysis procedures, including statistical techniques for quantitative data.

We presented our conceptual framework, which illustrates the hypothesized relationships between ESG factors, green banking initiatives,

perceived value, and financial performance. We explained the operationalization of key variables, ensuring clear and measurable constructs.

The chapter also addressed critical ethical considerations, including informed consent, confidentiality, and data protection measures. We acknowledged our study's limitations, such as sample size constraints and potential self-reporting bias, and outlined strategies to mitigate these limitations.

In conclusion, this methodology chapter provides a solid foundation for our research, ensuring a rigorous and ethical approach to investigating the relationships between green banking initiatives, ESG factors, and financial performance in Bahrain's banking sector.

Chapter 4:

Results and Discussions

4.1 Introduction

This chapter presents a comprehensive analysis of the data collected and the subsequent findings of this study on green banking initiatives and financial performance in Bahrain's banking sector. The chapter is structured into two main sections: data preparation and analysis.

The first section focuses on ensuring the quality and reliability of the collected data. This involves a thorough data screening, including examining missing data points and identifying potential outliers. Additionally, this section addresses critical assumptions for statistical analysis, such as data normality, linearity and absence of multicollinearity. We evaluate the measurement model's validity through convergent and discriminant validity tests for this study's Structural Equation Modeling (SEM) approach.

The second section delves into the core analysis, transforming raw data into meaningful insights. It begins with a descriptive analysis of the variables, providing an overview of green banking practices and financial performance indicators within Bahrain's banking sector. This is followed by an in-depth examination of the relationships between the independent variables (ESG factors and green banking initiatives) and the dependent variable (financial performance). The analysis also explores the mediating role of green banking perceived value, investigating how it influences the relationship between our primary variables of interest.

We employ Partial Least Squares Structural Equation Modeling (PLS-SEM) to test the hypothesized relationships in our conceptual model. This

advanced statistical technique allows us to examine multiple relationships and assess direct and indirect effects simultaneously. PLS-SEM is particularly suitable for this study due to its ability to handle complex models and its robustness to smaller sample sizes.

Through this systematic approach to data analysis, we aim to provide a detailed understanding of how green banking initiatives and ESG factors influence financial performance in Bahrain's banking sector, both directly and through the mediating effect of perceived value. The findings presented in this chapter will form the foundation for our conclusions and recommendations in the subsequent chapter.

4.2 Missing Data

In designing and implementing this study's data collection process, we took proactive measures to ensure the completeness of all responses. The survey was administered electronically through a secure online platform that required participants to answer all questions before submission. This mandatory completion feature effectively eliminated the possibility of missing data in our dataset.

As a result, we received 198 completed questionnaires, representing a 100% response rate for all items across all participants. This complete dataset includes responses to all primary variables of interest and demographic information. The absence of missing data enhances the reliability and validity of our subsequent analyses, as we do not need to employ any data imputation techniques or make decisions about handling incomplete responses.

This comprehensive data collection approach aligns with best practices in survey research, ensuring that our analysis is based on a complete and robust dataset. It also simplifies our data preparation process, allowing us

to proceed directly to other data screening and analysis aspects without addressing missing values.

4.3 Treatment of Outliers

Z-scores were calculated for all variables to detect potential outliers in the dataset. According to Hair et al. (2010), outlier values typically occur when the standard score is outside the range of ± 2.5 for small sample sizes ($n \leq 80$). For larger sample sizes, such as in this study, a more conservative threshold of ± 3 is often used (Frost, 2019).

Upon examination of the z-scores, no values fell below -3 or above 3. This indicates no extreme outliers in the dataset based on the commonly accepted threshold for larger sample sizes.

No data points were removed or transformed due to the absence of extreme outliers. This approach aligns with recommendations by Kline (2011) and Tabachnick & Fidell (2019), who suggest retaining data points when there are few or no extreme outliers in a large sample, as their impact on the overall results is minimal.

This dataset's lack of extreme outliers suggests that the responses were generally consistent and within expected ranges. This contributes to the robustness of the subsequent analyses, as extreme values that could potentially skew results are absent.

4.4 Normality Test

Normality testing is conducted on the grouped variables (the average of all the statements for each variable) used in the analysis, as Likert data are discrete while normal distribution is continuous. Table (6) presents the results of the normality test.

The table shows the skewness and kurtosis of the main variables in the study model. The skewness and kurtosis test indicate that the data follow a normal distribution. According to Doane & Seward (2011), data follow a normal distribution if the absolute values of skewness range between -2 and 2 and the kurtosis range between -7 and 7. In this case, all variables fall within these ranges, suggesting a normal distribution.

However, the Shapiro-Wilk test shows p-values (Sig) less than 0.05 for all variables, which means that the null hypothesis (the data follow a normal distribution) is rejected. It is important to note that the Shapiro-Wilk test is sensitive to sample size, and with larger samples, it may detect even slight departures from normality (Field, 2013).

Given that the sample size in this study is 198, which is considered a relatively large sample, violating the normality assumption should not pose significant issues. As stated by Pallant (2016), with sufficient sample sizes (> 30 or 40), parametric approaches can be used even when the data are not normally distributed (Elliott & Woodward, 2007). The central limit theorem states that (a) if the sample data are approximately normal, the sampling distribution will be normal as well; (b) in large samples (> 30 or 40), the sampling distribution tends to be normal regardless of the shape of the data (Elliott & Woodward, 2007); and (c) the means of random samples from any distribution will have a normal distribution.

Despite the Shapiro-Wilk test results, the relatively large sample size ($n = 198$) and the skewness and kurtosis values within the acceptable range suggest that the data can be considered approximately normally distributed, and parametric tests can be applied in the analysis (Doane & Seward, 2011; Elliott & Woodward, 2007; Field, 2013; Pallant, 2016).

Table (6) Test of Normality: Kurtoses, Skewness, and Shapiro-Wilk.

Study Variables	Skewness		Kurtoses		Shapiro-Wilk	
	Statistic	Std. Error	Statistic	Std. Error	Statistic	Sig
Environment Performance	-.712	.173	-.301	.344	.908	0.000
Social Performance	-.988	.173	.439	.344	.870	0.000
Governance	-.878	.173	-.003	.344	.872	0.000
Environmental Policies and Goals	-.912	.173	.270	.344	.880	0.000
Green Lending	-.622	.173	-.675	.344	.880	0.000
Green Products and Services	-1.150	.173	.508	.344	.823	0.000
Green Processes and Procedures	-1.095	.173	.410	.344	.838	0.000
Green Banking Perceived Value	-.280	.173	-.811	.344	.928	0.000
Bank Financial Performance	-1.109	.173	.589	.344	.873	0.000

4.5 Collinearity Assessment

We employed two methods to assess potential multicollinearity issues among the predictor variables: examining the correlation matrix and calculating Variance Inflation Factors (VIF).

In table 7, we analyzed the Pearson correlation coefficients between all study variables. According to Hair et al. (2010), correlation coefficients greater than or equal to 0.8 may indicate problematic levels of collinearity. Our data showed the highest correlation observed was 0.732 between Environmental Policies and Goals (EPG) and Governance (GOV). While this indicates a strong relationship, it falls below the 0.8 threshold for serious concern. Most other correlations were moderate, ranging from 0.3 to 0.7, suggesting acceptable levels of association between variables.

Table (7) Pearson correlation coefficients between all the study variables.

	EP	GOV	EPG	SP	GL	GPS	GPP
EP	1						
GOV	.419**	1					
EPG	.690**	.732**	1				
SP	.464**	.537**	.498**	1			
GL	.730**	.606**	.371**	.510**	1		
GPS	.655**	.573**	.370**	.573**	.490**	1	
GPP	.694**	.402**	.407**	.598**	.614**	.335**	1

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

In Table 8, we calculated Variance Inflation Factors (VIF) and tolerance values for each predictor variable. Hair et al. (2010) recommend that VIF values not exceed 10, and tolerance values should not fall below 0.1 to avoid multicollinearity issues in linear regression. Our results show that all VIF values are well below 10, with the highest being 7.088 for Environmental Policies and Goals. Similarly, all tolerance values are above 0.1, with the lowest being 0.141, as well as for environmental policies and goals.

Table (8) Collinearity Statistics with Tolerance and Variance Inflation Factor

Predictor	Collinearity Statistics	
	Tolerance	VIF
Environment Performance	0.247	4.047
Social Performance	0.242	4.139
Governance	0.164	6.081
Environmental Policies and Goals	0.141	7.088
Green Lending	0.227	4.413
Green Products and Services	0.151	6.634
Green Processes and Procedures	0.169	5.916

These findings collectively suggest that multicollinearity is not a significant concern in our data. While some variables show moderate to

strong correlations, they do not reach levels typically associated with problematic multicollinearity. The VIF and tolerance values support this conclusion, as they all fall within acceptable ranges.

While these results indicate acceptable levels of collinearity for traditional regression analyses, the study will employ structural equation modeling (SEM) for the main analysis. SEM has different assumptions and can sometimes handle higher levels of correlation among predictors. Nonetheless, the absence of extreme multicollinearity in these preliminary tests suggests that the variables are suitable for inclusion in the SEM analysis.

4.6 Descriptive analysis

In this section, we are going to present the demographic analysis of the responses and the descriptive analysis of all the items within each construct. The Mean is going to be used to describe the importance of each construct, while the standard deviation is going to be used to show the consistency of the answers. The Means will be ranked in order to compare the importance of each item.

4.6.1 Demographic analysis

The age distribution reveals that most respondents (39.9%) fall within the 36-45 age bracket, followed by the 26-35 age group (27.8%). This suggests that the banking sector in Bahrain is predominantly composed of middle-aged professionals. The 46-55 age group also has a significant representation (24.7%), indicating the presence of experienced individuals in the sector. The underrepresentation of the younger age group (18-25) at only 2.5% can be attributed to the nature of the positions held by the respondents. Individuals in this age range are likely to be in the early stages

of their careers and may not have accumulated the necessary experience to hold managerial positions.

Table (9) Age distribution

	Frequency	Percent
18-25	5	2.5
26-35	55	27.8
36-45	79	39.9
46-55	49	24.7
>55	10	5.1
Total	198	100.0

The gender distribution shows a slightly higher proportion of male respondents (55.1%) than female respondents (44.9%). While this suggests a relatively balanced gender representation in the banking sector, there is still room for improvement in gender equality. The banking industry in Bahrain seems to be making strides towards gender inclusivity, but further efforts may be required to achieve a genuinely equal representation.

Table (10) Gender distribution

	Frequency	Percent
Female	89	44.9
Male	109	55.1
Total	198	100.0

The educational level distribution highlights that half of the respondents (50.5%) hold a master's degree, while a significant proportion (41.4%) possess a bachelor's degree. This indicates that the banking sector in Bahrain values higher education and seeks professionals with advanced qualifications. The presence of PhD holders (8.1%) suggests that the sector also attracts individuals with research backgrounds. Interestingly, none of the respondents hold only a diploma or professional qualification, emphasizing the importance of academic degrees in the banking industry.

Table (11) Educational level distribution

	Frequency	Percent
Diploma	0	0
Bachelor	82	41.4
Master	100	50.5
PhD	16	8.1
Only Professional Qualification (ACCA, CA)	0	0
Total	198	100.0

The distribution of positions reveals that most respondents hold managerial roles, with 38.4% being managers and 38.9% being senior managers. This high concentration of individuals in top management positions enhances the credibility of the answers provided in the questionnaire.

Including many managers and senior managers ensures that the responses come from individuals with extensive knowledge, decision-making authority, and a comprehensive understanding of the banking sector's operations. These respondents are well-positioned to provide accurate and reliable information based on their expertise and experience.

The presence of assistant managers (19.7%) further strengthens the credibility of the responses. Assistant managers work closely with managers and senior managers, providing support and contributing to the overall functioning of the banking sector. Their inclusion in the sample offers a complementary perspective and adds depth to the insights gathered.

Although the representation of executives (1.0%) and the absence of general managers may seem like limitations, they do not necessarily diminish the credibility of the responses. The high concentration of managers and senior managers provides a robust representation of the upper levels of the banking sector.

The study's focus on top management positions aligns with its goal of gathering insights from individuals with a strategic vision, making key

decisions, and profoundly impacting the direction and performance of the banking sector. Their responses are significant and contribute to the study's validity and reliability.

Table (12) Distribution of positions

	Frequency	Percent
Executive	2	1.0
Assistant Manager	39	19.7
Manager	76	38.4
Senior Manager	77	38.9
Deputy General Manager	4	2.0
General Manager	0	0
Total	198	100.0

The data on years of experience shows that a considerable portion of the respondents have 11-15 years (29.3%) or 16-20 years (27.3%) of experience. This highlights the presence of seasoned professionals in the banking sector who have gained significant expertise over the years. This increases the initial satisfaction with their questionnaire responses. The 5-10 years category (20.2%) also has a notable representation, indicating a mix of mid-level experienced employees. The relatively low percentage of respondents with less than five years of experience (5.6%) suggests that the sector may have a higher entry barrier or that the sample may not fully capture the entry-level workforce.

Table (13) Number of years of experience

	Frequency	Percent
<5	11	5.6
5-10	40	20.2
11-15	58	29.3
16-20	54	27.3
>20	35	17.7
Total	198	100.0

4.6.2 Descriptive Assessment Scale

A three-level scale used to assess the responses of the sample is shown below in Table (14). This scale was developed using a systematic approach based on the structure of the questionnaire and the desired categorization of responses. The questionnaire employs a 5-point Likert scale, with 1 representing the minimum value and five representing the maximum value. Three levels of importance were established: High, medium, and low to categorize the responses effectively.

Table No. (14): Scale for Evaluating Arithmetic Means of Questionnaire Results

Arithmetic mean range	Importance Level
More than 3.66	High
From 2.33 to 3.66	Medium
From 1-2.33	Weak

The total range of the scale (from 1 to 5, yielding a range of 4) was divided by the number of categories (3) to determine the width of each interval. This calculation resulted in an interval width of approximately 1.33. The category boundaries were established as follows using this interval width: the upper bound for low importance is 2.33 (calculated as $1.00 + 1.33$), the upper bound for medium importance is 3.66 (calculated as $2.33 + 1.33$), and high importance spans from 3.67 to the maximum value of 5.00.

Arithmetic means falling between 1.00 and 2.33 indicate low importance which represent a weakness in the construct, those between 2.34 and 3.66 suggest medium importance and means from 3.67 to 5.00 denote high importance. This scale will be consistently applied to assess and interpret the average responses for each question in the questionnaire, providing a standardized method for evaluating the perceived importance of different factors in the study.

4.6.3 Constructs' Descriptive Analysis

In table 15, The Environmental Performance construct, comprising six statements/variables, measures various aspects of a bank's environmental practices and initiatives. This construct is considered highly important, with an overall variable average of 3.79 and a standard deviation of 1.13. Respondents generally agree that their banks have enabled a reduction in carbon emissions (Mean: 3.67, SD: 1.108), actively work to reduce waste production (Mean: 3.71, SD: 1.151), are concerned about waste recycling (Mean: 3.73, SD: 1.137) and waste management (Mean: 3.71, SD: 1.133), have improved compliance with environmental standards (Mean: 3.74, SD: 1.109), and have ensured a significant reduction in energy consumption (Mean: 3.67, SD: 1.149) through their green banking practices. The standard deviations for all variables are relatively consistent, ranging from 1.108 to 1.151, indicating a similar level of dispersion in responses across the construct.

The descriptive analysis of the Environmental Performance construct shows that the substantial aspects include compliance with environmental standards (Mean: 3.74, SD: 1.109), waste recycling (Mean: 3.73, SD: 1.137), waste production reduction, and waste management (both with Mean: 3.71, SD: 1.151 and 1.133, respectively). These high mean scores suggest that banks successfully align their operations with environmental regulations, promote recycling efforts, and effectively address waste production and management. On the other hand, the weak aspects include reducing carbon emissions and energy consumption (Mean: 3.67, SD: 1.108 and 1.149, respectively). Although still considered highly important, these variables have the lowest mean scores, indicating that while banks try reducing their carbon footprint and energy consumption, there may be room for improvement compared to other environmental initiatives. However, the differences between the strong and weak aspects are

relatively small, and all variables have mean scores above 3.67, suggesting that banks are performing well across all measured areas of environmental performance.

Table (15) Descriptive Analysis for Environmental Performance

#	Statements	Mean	Standard deviation	Level of importance
1	My bank enabled reduction in carbon emissions through green banking activities.	3.67	1.108	High
2	My bank reduces waste production as part of green banking practices.	3.71	1.151	High
3	My bank is concerned about waste recycling as part of green banking practices.	3.73	1.137	High
4	My bank is concerned about waste management as part of green banking practices.	3.71	1.133	High
5	My bank's compliance with environmental standards improved through green banking practices.	3.74	1.109	High
6	My bank ensured reduction in energy consumption in the bank significantly through green banking practices.	3.67	1.149	High
	Variable Average	3.79	1.13	High

In table 16, The Social Performance construct, comprising four statements/variables, measures various aspects of a bank's social practices and initiatives. This construct is considered highly important, with an overall variable average of 3.86 and a standard deviation of 1.0925. Respondents generally agree that their banks ensure better customer satisfaction through green banking practices (Mean: 3.82, SD: 1.092), have a positive effect on the bank's image (Mean: 3.83, SD: 1.113), result in better relationships among stakeholders (Mean: 3.86, SD: 1.076), and have increased compliance with applicable social laws and regulations (Mean: 3.91, SD: 1.089). The standard deviations for all variables are relatively consistent, ranging from 1.076 to 1.113, indicating a similar level of dispersion in responses across the construct.

The descriptive analysis of the Social Performance construct shows that the substantial aspects include increased compliance with applicable

social laws and regulations (Mean: 3.91, SD: 1.089) and better stakeholder relationships (Mean: 3.86, SD: 1.076). These high mean scores suggest that banks successfully align their operations with social regulations and foster positive relationships with their stakeholders through green banking practices. On the other hand, the relatively weaker aspects include better customer satisfaction (Mean: 3.82, SD: 1.092) and a positive effect on the bank's image (Mean: 3.83, SD: 1.113). Although still considered highly important, these variables have the lowest mean scores, indicating that while banks try to improve customer satisfaction and their image through green banking practices, there may be room for improvement compared to other social initiatives. The differences between the strong and weak aspects are relatively small, and all variables have mean scores above 3.82, suggesting that banks perform well across all measured areas of social performance.

Table (16) Descriptive Analysis for Social Performance

#	Statements	Mean	Standard deviation	Level of importance
1	My bank ensures better customers' satisfaction through green banking practices	3.82	1.092	High
2	My bank's green banking practices have positive effect on the image of my bank	3.83	1.113	High
3	My bank's green banking practices resulted in better relationship amongst the stakeholders.	3.86	1.076	High
4	My bank's green banking practices resulted in increased compliance with applicable social laws and regulations.	3.91	1.089	High
	Variable Average	3.86	1.0925	High

In table 17, The Governance construct, comprising five statements/variables, measures various aspects of a bank's top management's role in implementing and supporting green finance practices. This construct is considered highly important, with an overall variable average of 3.86 and a standard deviation of 1.0925. Respondents

generally agree that their banks' top management ensures creative green finance policies are initiated for their implementation (Mean: 3.93, SD: 1.081), ensures regular green finance training (Mean: 3.89, SD: 1.006), ensures regular monitoring and compliance of bank green finance practices (Mean: 3.89, SD: 1.106), and behaves responsibly regarding sustainability (Mean: 3.98, SD: 1.090). However, the statement regarding top management ensuring budgetary support for green finance practices has a relatively lower mean score (Mean: 3.57, SD: 1.026), falling into the medium level of importance. The standard deviations for all variables are relatively consistent, ranging from 1.006 to 1.106, indicating a similar level of dispersion in responses across the construct.

The descriptive analysis of the Governance construct shows that the substantial aspects include top management behaving responsibly regarding sustainability (Mean: 3.98, SD: 1.090), ensuring creative green finance policies are initiated for their implementation (Mean: 3.93, SD: 1.081), and ensuring regular green finance training and monitoring and compliance of bank green finance practices (both with Mean: 3.89, SD: 1.006 and 1.106, respectively). These high mean scores suggest that banks' top management actively promotes sustainability, develops innovative green finance policies, and ensures regular training, monitoring, and compliance related to green finance practices. On the other hand, the relatively weaker aspect is top management ensuring budgetary support for green finance practices (Mean: 3.57, SD: 1.026). Although still considered of medium importance, this variable has the lowest mean score, indicating that while banks' top management supports green finance practices, there may be room for improvement in allocating sufficient budgetary resources compared to other governance initiatives. However, all variables, except for budgetary support, have mean scores above 3.89, suggesting that banks'

top management is performing well across most measured areas of governance related to green finance practices.

Table (17) Descriptive Analysis for Governance

#	Statements	Mean	Standard deviation	Level of importance
1	Top management of my bank ensures creative green finance policies are initiated for their implementation.	3.93	1.081	High
2	Top management of my bank ensures budgetary support for green finance practices.	3.57	1.026	Medium
3	Top management of my bank ensures regular green finance training.	3.89	1.006	High
4	Top management of my bank ensures regular monitoring and compliance of bank green finance practices.	3.89	1.106	High
5	Top management of my bank behaves responsibly regarding sustainability.	3.98	1.090	High
	Variable Average	3.86	1.0925	High

In Table 18, The Environmental Policies and Goals construct, comprising five statements/variables, measures various aspects of a bank's environmental audits, policies, agreements, incentive programs, and performance evaluation practices. This construct is considered highly important, with an overall variable average of 3.87 and a standard deviation of 1.1556. Respondents generally agree that their banks conduct regular environmental audits (Mean: 3.85, SD: 1.194), have put in place environmental (green) policy and pollution prevention plans (Mean: 3.90, SD: 1.135), have entered into environmental-related agreements with concerned stakeholders (Mean: 3.87, SD: 1.140), have implemented incentive programs for environmental suggestions provided by employees (Mean: 3.85, SD: 1.155), and have implemented green environmental performance evaluation practices (Mean: 3.88, SD: 1.154). The standard deviations for all variables are relatively consistent, ranging from 1.135 to 1.194, indicating a similar level of dispersion in responses across the construct.

The descriptive analysis of the Environmental Policies and Goals construct shows that the substantial aspects include having put in place environmental (green) policy and pollution prevention plans (Mean: 3.90,

SD: 1.135), implementing green environmental performance evaluation practices (Mean: 3.88, SD: 1.154), and entering into environmental-related agreements with concerned stakeholders (Mean: 3.87, SD: 1.140). These high mean scores suggest that banks have established robust environmental policies, pollution prevention plans, and performance evaluation practices and fostered collaboration with relevant stakeholders through environmental agreements. On the other hand, the relatively weaker aspects include conducting regular environmental audits and implementing incentive programs for environmental suggestions provided by employees (both with Mean: 3.85, SD: 1.194, and 1.155, respectively). Although still considered highly important, these variables have the lowest mean scores, indicating that while banks engage in environmental audits and incentivize employee suggestions, there may be room for improvement compared to other environmental policy and goal initiatives. However, the differences between the strong and weak aspects are minimal, and all variables have mean scores of 3.85 or higher, suggesting that banks are performing well across all measured areas of environmental policies and goals.

Table (18) Descriptive Analysis for Environmental Policies and Goals

#	Statements	Mean	Standard deviation	Level of importance
1	In my bank environment audit is done regularly.	3.85	1.194	High
2	In my bank has put in place environmental (green) policy and pollution prevention plans.	3.90	1.135	High
3	My bank has entered into environmental related agreement stakeholders concerned (e.g. suppliers, customers, etc.).	3.87	1.140	High
4	My bank has implemented incentive programs for environmental suggestions provided by employees.	3.85	1.155	High
5	My bank has implemented green environmental performance evaluation practices (e.g. energy saving measures, environmental sustainability measures).	3.88	1.154	High
	Variable Average	3.87	1.1556	High

In table 19, The Green Lending construct, comprising four statements/variables, measures various aspects of a bank's lending practices related to environmental considerations. This construct is considered highly important, with an overall variable average of 3.71 and a standard deviation of 1.23325. Respondents generally agree that their banks examine the environmental records of clients before lending (Mean: 3.73, SD: 1.248), assess third-party (Central Environmental Authority) reporting on loan proposals before lending (Mean: 3.75, SD: 1.211), and promote environmental-oriented firms through special grants, loans, and guidance (Mean: 3.69, SD: 1.251). However, the statement regarding banks lending at low interest rates to firms involved in environmental protection and energy-saving projects has a relatively lower mean score (Mean: 3.65, SD: 1.223), falling into the medium level of importance. The standard deviations for all variables are relatively consistent, ranging from 1.211 to 1.251, indicating a similar level of dispersion in responses across the construct.

The descriptive analysis of the Green Lending construct shows that the substantial aspects include assessing third-party (Central Environmental Authority) reporting on loan proposals before lending (Mean: 3.75, SD: 1.211) and examining the environmental records of clients before lending (Mean: 3.73, SD: 1.248). These high mean scores suggest that banks actively consider environmental factors and reports from relevant authorities when making lending decisions. On the other hand, the relatively weaker aspects include promoting environmental-oriented firms through special grants, loans, and guidance (Mean: 3.69, SD: 1.251) and lending at low rates of interest to firms involved in environmental protection and energy-saving projects (Mean: 3.65, SD: 1.223). Although still considered highly important and of medium importance, these variables have the lowest mean scores, indicating that

while banks support environmental-oriented firms and projects, there may be room for improvement in offering more attractive rates and promotional initiatives compared to other green lending practices. However, the differences between the strong and weak aspects are relatively small, and all variables have mean scores of 3.65 or higher, suggesting that banks are performing well across most measured areas of green lending.

Table (19) Descriptive Analysis for Green Lending

#	Statements	Mean	Standard deviation	Level of importance
1	In my bank the environmental records of clients are examined before lending.	3.73	1.248	High
2	In my bank third-party (Central Environmental Authority) reporting on loan proposal are assessed before lending.	3.75	1.211	High
3	In my bank, loans are lent at low rates of interest to firms involved in environmental protection and energy-saving projects.	3.65	1.223	Medium
4	In my bank, environmental-oriented firms are promoted through special grants, loans, and guidance.	3.69	1.251	High
	Variable Average	3.71	1.23325	High

In table 20, The Green Products and Services construct, comprising three statements/variables, measures various aspects of a bank's investments in electronic, online, and mobile banking services and the development of green deposit schemes. This construct is considered highly important, with an overall variable average of 3.997 and a standard deviation of 1.171. Respondents strongly agree that their banks invest in electronic and online banking services (Mean: 4.06, SD: 1.150) and mobile banking (Mean: 4.06, SD: 1.143). However, the statement regarding banks developing green deposit schemes has a relatively lower mean score (Mean: 3.87, SD: 1.221), although still falling into the high level of importance. The standard deviations for all variables are relatively

consistent, ranging from 1.143 to 1.221, indicating a similar level of dispersion in responses across the construct.

The descriptive analysis of the Green Products and Services construct shows that the substantial aspects include investments in electronic, online, and mobile banking services (both with Mean: 4.06, SD: 1.150, and 1.143, respectively). These high mean scores suggest that banks actively invest in digital banking solutions, which can help reduce paper usage and contribute to environmental sustainability. On the other hand, the relatively weaker aspect is the development of green deposit schemes (Mean: 3.87, SD: 1.221). Although still considered highly important, this variable has the lowest mean score, indicating that while banks invest in digital banking services, there may be room for improvement in developing and promoting green deposit schemes to encourage environmentally conscious saving and investment practices among customers. However, the difference between the strong and weak aspects is relatively small, and all variables have mean scores of 3.87 or higher, suggesting that banks are performing well across all measured areas of green products and services.

Table (20) Descriptive Analysis for Green products and services

#	Statements	Mean	Standard deviation	Level of importance
1	In my bank, investments are made in electronic and online banking services.	4.06	1.150	High
2	In my bank, investments are made in mobile banking.	4.06	1.143	High
3	In my bank green deposit schemes are developed.	3.87	1.221	High
	Variable Average	3.997	1.171	High

In table 21, The Green Processes and Procedures construct, comprising five statements/variables, measures various aspects of a bank's implementation of environmentally friendly practices, such as e-waste management, energy-

efficient buildings, paperless processes, and energy-efficient equipment and systems. This construct is considered highly important, with an overall variable average of 4.008 and a standard deviation of 1.1518. Respondents strongly agree that their banks implement environmentally friendly banking practices (Mean: 4.08, SD: 1.140), use energy-efficient equipment, system solutions, and practices (Mean: 4.08, SD: 1.122), and use alternative means to paperwork (Mean: 4.07, SD: 1.160). The statements regarding banks implementing e-waste management practices (Mean: 3.92, SD: 1.142) and setting up green branches involving energy-efficient buildings (Mean: 3.89, SD: 1.195) have relatively lower mean scores but still fall into the high level of importance. The standard deviations for all variables are relatively consistent, ranging from 1.122 to 1.195, indicating a similar level of dispersion in responses across the construct.

The descriptive analysis of the Green Processes and Procedures construct shows that the substantial aspects include implementing environmentally friendly banking practices, using energy-efficient equipment, system solutions, and practices (both with Mean: 4.08, SD: 1.140 and 1.122, respectively), and using alternative means to paperwork (Mean: 4.07, SD: 1.160). These high mean scores suggest that banks actively promote paperless processes, adopt energy-efficient technologies, and implement environmentally friendly practices. The relatively weaker aspects include implementing e-waste management practices (Mean: 3.92, SD: 1.142) and setting up green branches involving energy-efficient buildings (Mean: 3.89, SD: 1.195). Although still considered highly important, these variables have the lowest mean scores, indicating that while banks focus on paperless processes and energy-efficient technologies, there may be room for improvement in e-waste management and establishing green branches with energy-efficient buildings. However,

the differences between the strong and weak aspects are relatively small, and all variables have mean scores of 3.89 or higher, suggesting that banks are performing well across all measured areas of green processes and procedures.

Table (21) Descriptive Analysis for Green processes and procedures

#	Statements	Mean	Standard deviation	Level of importance
1	In my bank e-waste management practices are implemented.	3.92	1.142	High
2	In my bank green branches involving energy efficient buildings are set up.	3.89	1.195	High
3	In my bank alternative means to paperwork are used (e.g. e-mails).	4.07	1.160	High
4	In my bank environmentally friendly banking practices are implemented (e.g. electronic statements, online approval systems etc.)	4.08	1.140	High
5	In my bank equipment, system solutions and practices that are used are energy efficient (e.g. ATMs, LED lighting, SWIFT transfer, etc.).	4.08	1.122	High
	Variable Average	4.008	1.1518	High

In table 22, The Green Banking Perceived Value construct, which serves as a mediator variable in the model, comprises four statements/variables that measure customers' perceptions and preferences regarding green banking products and their environmental commitments. This construct is considered of medium importance, with an overall variable average of 3.33 and a standard deviation of 1.193. Respondents moderately agree that it makes sense for customers to use green banking products instead of other products because of their environmental commitments (Mean: 3.42, SD: 1.235). They also somewhat agree that even if another banking product has the same features or is as good as green products in quality, customers would prefer to use banking products with environmental commitments (Mean: 3.31, SD: 1.181 and Mean: 3.29, SD: 1.173, respectively). Additionally, respondents moderately agree that if no environmental concern is built into other banking products, customers feel

it is wiser to use green banking products (Mean: 3.31, SD: 1.184). The standard deviations for all variables are relatively consistent, ranging from 1.173 to 1.235, indicating a similar level of dispersion in responses across the construct.

Table (22) Descriptive Analysis of Green Banking Perceived Value

#	Statements	Mean	Standard deviation	Level of importance
1	It makes sense to customers to use green banking products (example: use of online banking in place of in person banking) instead of other products because of its environmental commitments.	3.42	1.235	Medium
2	Even if another banking product has the same features, customers would prefer to use banking products with environmental commitments (example use of mobile banking in place of banking using paper).	3.31	1.181	Medium
3	Even if there is another banking product that is as good as green products in quality, customers prefer to use green one (example: green banking deposit scheme).	3.29	1.173	Medium
4	If there is no environmental concern built into other banking products, customers feel that it is smarter to use green banking products (example: green mortgage).	3.31	1.184	Medium
	Variable Average	3.33	1.193	Medium

The descriptive analysis of the Green Banking Perceived Value construct shows that the relatively more substantial aspect is customers' perception that it makes sense to use green banking products instead of other products due to their environmental commitments (Mean: 3.42, SD: 1.235). This suggests that customers recognize the value of green banking products in terms of their environmental benefits. On the other hand, the relatively weaker aspects include customers' preference for green banking products even when other products have the same features or quality (Mean: 3.31, SD: 1.181 and Mean: 3.29, SD: 1.173, respectively) and the perception that it is smarter to use green banking products when there is no environmental concern built into other products (Mean: 3.31, SD: 1.184).

Although still considered of medium importance, these variables have lower mean scores, indicating that while customers appreciate the environmental value of green banking products, their preferences may not be as strong when comparing them to other products with similar features or quality. However, the differences between the more robust and weaker aspects are relatively small, and all variables have mean scores within the medium level of importance, suggesting that the perceived value of green banking products plays a moderate role in influencing customers' preferences and decision-making.

In Table 23, The Bank Financial Performance construct, which serves as the independent variable in the model, comprises five statements/variables that measure respondents' level of satisfaction with their bank's profitability and financial performance. This construct is considered highly important, with an overall average of 3.9 and a standard deviation of 1.1208. Respondents express high satisfaction with their bank's financial profitability (Mean: 3.98, SD: 1.090), sales growth (Mean: 3.88, SD: 1.154), profit growth (Mean: 3.67, SD: 1.149), return on assets (Mean: 3.91, SD: 1.089), and return on equity (Mean: 4.08, SD: 1.122). The standard deviations for all variables are relatively consistent, ranging from 1.089 to 1.154, indicating a similar level of dispersion in responses across the construct.

Table (23) Descriptive Analysis of Bank financial performance

#	Statements/Variables	Mean	Standard deviation	Level of importance
1	Financial profitability	3.98	1.090	High
2	Sales growth	3.88	1.154	High
3	Profit growth	3.67	1.149	High
4	Return on asset	3.91	1.089	High
5	Return on equity	4.08	1.122	High
	Variable Average	3.9	1.1208	High

The descriptive analysis of the Bank Financial Performance construct reveals that the mean scores for all variables are relatively high, ranging from 3.67 to 4.08, suggesting that respondents are highly satisfied with their bank's financial performance across various metrics. The highest mean score is for return on equity (Mean: 4.08, SD: 1.122), followed by financial profitability (Mean: 3.98, SD: 1.090), return on assets (Mean: 3.91, SD: 1.089), sales growth (Mean: 3.88, SD: 1.154), and profit growth (Mean: 3.67, SD: 1.149). The high averages indicate that respondents perceive their bank's performance to be strong across different aspects of financial performance, with return on equity standing out as the strongest metric.

All variables fall within the high level of importance, with mean scores ranging from 3.67 to 4.08, suggesting that respondents are highly satisfied with their bank's financial performance. This high level of satisfaction indicates that banks are performing well in profitability, sales growth, profit growth, return on assets, and return on equity, which contributes to increased customer satisfaction and helps maintain a competitive edge in the market. The close averages across the variables also suggest that banks adopt a holistic approach to their financial performance, focusing on all aspects rather than prioritizing one metric over others.

However, banks should not become complacent with their current level of performance and should continue to strive for improvement in all areas of financial performance. By enhancing profitability, sales growth, profit growth, return on assets, and return on equity, banks can further increase customer satisfaction and strengthen their position in the market.

4.6.3 Conclusion of Descriptive Analysis

The descriptive analysis of green banking practices in Bahraini banks covers various constructs: environmental performance, social

performance, governance, environmental policies and goals, green lending, green products, and services, green processes and procedures, green banking perceived value, and bank financial performance. Based on bank managers' responses, this analysis examines how Bahraini banks incorporate sustainable practices into their operations, their perceptions of customer attitudes towards green banking, and their potential impact on financial performance. The findings provide insights into environmental, social, and governance (ESG) factors within the Bahraini banking sector.

Bahraini banks perform well and are highly important in environmental, social, and governance (ESG) factors. There is a strong focus on implementing green banking practices, particularly in digital banking services and environmentally friendly processes, while green lending practices are highly important, offering more attractive rates for environmental projects could be improved. Customers value green banking products moderately, but this does not always translate to a strong preference when compared with other products of similar quality. Banks' financial performance is perceived as highly satisfactory while offering opportunities for further enhancement across various financial metrics. Most areas have a consistent high-performance pattern, with slightly lower (but still important) scores in some specific aspects of each construct. The analysis suggests that Bahraini banks have successfully integrated many green banking practices but could further enhance their efforts in certain areas to improve both environmental impact and customer perception. High satisfaction with financial performance and the importance of green banking practices suggest that banks effectively translate their Based on the descriptive analysis of the Green Banking Perceived Value construct (Table 21), bank managers perceive that customers moderately appreciate the environmental commitments embedded in green banking products.

The mean scores for all items in this construct fall within the medium level of importance (ranging from 3.29 to 3.42), suggesting that customers see some value in green banking products due to their environmental benefits. However, this perceived customer appreciation does not necessarily translate into a strong preference for green products over conventional alternatives with similar features or quality. This is evidenced by the relatively lower mean scores for items such as "Even if another banking product has the same features, customers would prefer to use banking products with environmental commitments" (Mean: 3.31) and "Even if there is another banking product that is as good as green products in quality, customers prefer to use green one" (Mean: 3.29).

The managers' responses suggest a potential gap between customers' environmental awareness and banking choices, as observed by the banking professionals. When faced with options, managers believe that customers do not consistently prioritize green banking products over others, even if the environmental benefits are recognized.

This perception by bank managers, as reflected in the survey results, indicates several essential points. Banking professionals observe a moderate customer awareness and appreciation for green banking initiatives (Overall variable average: 3.33). However, this awareness may not be a decisive factor in customers' banking decisions from the managers' perspective, as evidenced by the medium-level importance ratings across all items in the Green Banking Perceived Value construct. Bank managers perceive that the environmental aspects of banking products, while valuable, may not override factors like features, quality, or convenience in customer decision-making. This is suggested by the relatively lower mean scores for items comparing green products to conventional products with similar features or quality.

The quantitative findings are enriched by participants' perspectives shared during data collection. Many respondents emphasized the challenges of balancing environmental initiatives with profitability targets, echoing findings from Sangisetti and Venkata (2022). These insights align with previous research by Daniel (2023) showing that successful green banking implementation requires careful consideration of both financial and environmental objectives. The results particularly resonate with Malsha et al.'s (2020) findings regarding the importance of green perceived value in mediating between environmental initiatives and financial outcomes.

4.7 Assessment of measurement model

Assessing the measurement model involves two key components: convergent validity and discriminant validity.

Convergent validity evaluates the extent to which multiple measures of the same construct demonstrate agreement. It examines how strongly indicators of a specific construct correlate positively with other measures of that same construct. This helps confirm that the indicators are indeed measuring the intended latent variable.

On the other hand, Discriminant validity assesses the degree to which measures of different constructs are distinct. It examines whether items adequately differentiate between constructs by analyzing correlations between potentially overlapping constructs. This ensures that each construct captures a unique concept not represented by other constructs in the model.

Together, these two types of validity provide evidence for the measurement model's overall construct validity. Convergent validity confirms that indicators of a construct are related, while discriminant validity verifies that constructs are sufficiently different from each other.

Proper assessment of both aspects is crucial for establishing the reliability and validity of the measurement instruments used in the study.

4.7.1 Convergent Validity

Table (24) presents the results of a convergent validity analysis for a model measuring various constructs related to environmental, social, and governance (ESG) performance, green banking initiatives, and bank financial performance. The analysis assesses the validity of the measurement model by examining the factor loadings, composite reliability (CR), and average variance extracted (AVE) for each construct.

The factor loadings represent the strength of the relationship between each item and its corresponding construct. In this table, all factor loadings are above 0.869, indicating a strong association between the items and their respective constructs.

The Composite Reliability (CR) measures the internal consistency of the items within each construct. The CR values for all constructs are above 0.967, well above the recommended threshold of 0.7. This suggests that the items within each construct are highly reliable and consistent.

The Average Variance Extracted (AVE) measures the amount of variance captured by the construct about the variance due to measurement error. The AVE values for all constructs are above 0.841, exceeding the recommended threshold of 0.5. This indicates that the constructs account for a substantial portion of the variance in their respective items.

Based on the results presented in the table, the measurement model demonstrates strong convergent validity. The high factor loadings, composite reliability, and average variance extracted values suggest that the items within each construct are closely related, reliable, and capture a significant amount of the construct's variance. This supports the validity of the constructs in measuring environmental performance, social performance, governance,

environmental policies and goals, green lending, green products and services, green processes and procedures, and banks' financial performance.

The strong convergent validity indicates that the items within each construct measure the same underlying concept, providing confidence in the measurement model's ability to assess the latent variables accurately. These results support the use of this model for further analysis and the drawing of meaningful conclusions about the relationships between the constructs and their impact on banks' performance.

Table (24) Results of Measurements Model-Convergent Validity

Construct	Items	Loading	CR	AVE
Environmental performance	EP1	0.95	0.985	0.915
	EP2	0.953		
	EP3	0.969		
	EP4	0.97		
	EP5	0.948		
	EP6	0.949		
Social performance	SP1	0.963	0.983	0.934
	SP2	0.974		
	SP3	0.972		
	SP4	0.956		
Governance	GOV1	0.956	0.981	0.914
	GOV2	0.956		
	GOV3	0.962		
	GOV4	0.958		
	GOV5	0.947		
Environmental Policies and Goals	EPG1	0.887	0.976	0.893
	EPG2	0.96		
	EPG3	0.969		
	EPG4	0.936		
	EPG5	0.969		
Green lending	GL1	0.948	0.982	0.932
	GL2	0.979		
	GL3	0.976		
	GL4	0.959		
Green products and services	GPS1	0.964	0.967	0.908
	GPS2	0.975		
	GPS3	0.918		
Green processes and procedures	GPP1	0.937	0.974	0.884
	GPP2	0.892		
	GPP3	0.95		
	GPP4	0.962		

Construct	Items	Loading	CR	AVE
Bank's Financial Performance	GPP5	0.959	0.983	0.955
	BFP1	0.932		
	BFP2	0.919		
	BFP3	0.869		
	BFP4	0.943		
	BFP5	0.922		

Fig (7) shows the external loadings for each construct, indicating the strength of the relationships between indicators and their respective constructs. Higher values reflect stronger associations, supporting the model's reliability and validity.

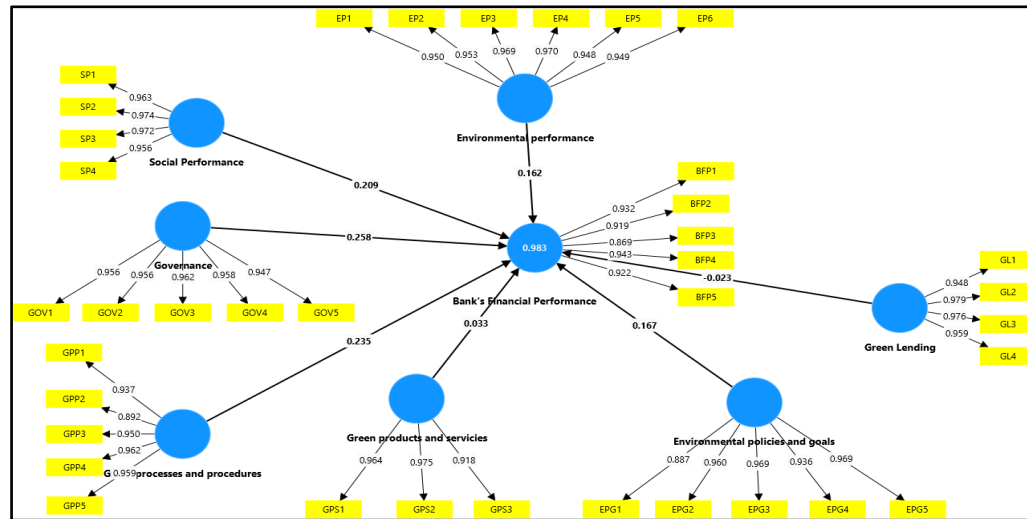


Fig (7) Factor loadings of the measurement model's variables

4.7.2 Discriminant Validity

The thorough testing of discriminant validity, which refers to how items distinguish between constructs or measure different concepts, was conducted with utmost care. This involved looking at the correlations between measures of constructs that might overlap, cross-loading variables, and conducting correlation-row squares using Fornell-Larcker criterion comparisons in Table (25). The results in Table (25) reassure that the square root of AVE for each construct was higher than the inter-scale correlation, according to Chin's (2010) criteria.

Table (25) The Square root of AVE (Latent variable Correlation) according to the Fornell-Larcker criterion

	BFP	EP	EPG	GOV	GL	GPP	GPS	SP
BFP	0.977							
EP	0.88	0.957						
EPG	0.944	0.79	0.945					
GOV	0.943	0.819	0.931	0.956				
GL	0.835	0.73	0.871	0.806	0.966			
GPP	0.937	0.794	0.906	0.902	0.811	0.94		
GPS	0.91	0.756	0.868	0.873	0.786	0.935	0.953	
SP	0.962	0.864	0.897	0.938	0.811	0.898	0.873	0.966

Note: Bold values indicate higher factorial loads

Table (26) shows that all items loaded in a higher value with the same construct than other variables, satisfying the discriminant validity of Chin's (2010) criteria. In summary, these results indicate satisfactory reliability and convergent validity, instilling confidence in the audience.

Table (26) Discriminant Validity- Cross Loading

	BFP	EP	EPG	GOV	GL	GPP	GPS	SP
BFP1	0.932	0.777	0.865	0.927	0.741	0.857	0.824	0.895
BFP2	0.919	0.763	0.909	0.897	0.85	0.883	0.834	0.852
BFP3	0.869	0.849	0.78	0.799	0.718	0.776	0.765	0.849
BFP4	0.943	0.806	0.853	0.913	0.779	0.867	0.833	0.956
BFP5	0.922	0.752	0.86	0.863	0.739	0.919	0.914	0.857
EP1	0.824	0.95	0.749	0.766	0.702	0.756	0.722	0.807
EP2	0.817	0.953	0.741	0.753	0.682	0.758	0.71	0.8
EP3	0.846	0.969	0.754	0.79	0.695	0.757	0.719	0.835
EP4	0.846	0.97	0.761	0.797	0.7	0.748	0.713	0.833
EP5	0.849	0.948	0.748	0.797	0.694	0.762	0.707	0.835
EP6	0.869	0.949	0.78	0.799	0.718	0.776	0.765	0.849
EPG1	0.844	0.724	0.887	0.825	0.765	0.82	0.82	0.815
EPG2	0.909	0.765	0.96	0.906	0.802	0.884	0.83	0.877
EPG3	0.905	0.754	0.969	0.893	0.85	0.87	0.825	0.859
EPG4	0.881	0.725	0.936	0.878	0.846	0.819	0.794	0.834
EPG5	0.919	0.763	0.969	0.897	0.85	0.883	0.834	0.852
GL1	0.832	0.732	0.859	0.77	0.948	0.816	0.769	0.811
GL2	0.805	0.697	0.839	0.79	0.979	0.772	0.743	0.779
GL3	0.813	0.708	0.846	0.791	0.976	0.791	0.769	0.779
GL4	0.771	0.682	0.818	0.761	0.959	0.751	0.753	0.76
GOV1	0.924	0.799	0.89	0.956	0.751	0.867	0.843	0.907
GOV2	0.915	0.778	0.89	0.956	0.755	0.861	0.845	0.889
GOV3	0.919	0.796	0.906	0.962	0.803	0.863	0.817	0.888
GOV4	0.918	0.766	0.902	0.958	0.804	0.863	0.842	0.902
GOV5	0.932	0.777	0.865	0.947	0.741	0.857	0.824	0.895
GPP1	0.874	0.751	0.866	0.847	0.822	0.937	0.831	0.845

	BFP	EP	EPG	GOV	GL	GPP	GPS	SP
GPP2	0.838	0.711	0.841	0.807	0.83	0.892	0.84	0.812
GPP3	0.906	0.764	0.853	0.866	0.721	0.95	0.892	0.845
GPP4	0.91	0.753	0.839	0.857	0.709	0.962	0.914	0.86
GPP5	0.922	0.752	0.86	0.863	0.739	0.959	0.914	0.857
GPS1	0.877	0.733	0.823	0.839	0.704	0.896	0.964	0.834
GPS2	0.884	0.741	0.83	0.846	0.724	0.909	0.975	0.851
GPS3	0.838	0.685	0.83	0.809	0.823	0.867	0.918	0.811
SP1	0.928	0.843	0.885	0.922	0.812	0.866	0.844	0.963
SP2	0.923	0.837	0.867	0.893	0.77	0.871	0.865	0.974
SP3	0.922	0.855	0.863	0.895	0.773	0.865	0.832	0.972
SP4	0.943	0.806	0.853	0.913	0.779	0.867	0.833	0.956

Note: Bold values indicate higher factorial loads.

4.8 Assessment of Structural Model (Inner model)

This is the second type of assessment, which is usually conducted to assess the structural equation model. This type is concerned with assessing the inner relationships between constructs, which includes hypothesis testing.

4.8.1 R-squared

When assessing the structural model in PLS-SEM, an adjusted R-squared value of 0.983 is remarkably high, indicating an exceptional level of explanatory power for the dependent variable(s) in the research context. This suggests that the predictor variables in the model account for approximately 98.3% of the variance in the outcome variable(s), leaving only a small portion unexplained.

While Chin (1998) proposes that R-squared values of 0.67, 0.33, and 0.19 can be considered substantial, moderate, and weak, respectively, your adjusted R-squared value of 0.983 far surpasses the threshold for a significant level of explanatory power. This exceptionally high value implies that the study model has captured the most critical factors influencing the dependent variable(s) and that the relationships between the predictors and the outcome(s) are solid.

However, it is essential to consider the possibility of overfitting when encountering such a high adjusted R-squared value. Overfitting occurs

when a model is excessively complex and includes too many predictors, leading to a model that fits the sample data very well but may not generalize effectively to new data or different contexts (Hair et al., 2019).

Furthermore, some researchers argue that the theoretical relevance and interpretability of the model should take precedence over the pursuit of a high R-squared value (Hair et al., 2012). If a model with a very high R-squared value lacks theoretical justification or yields results inconsistent with established theory, the focus may shift towards refining the model based on theoretical considerations rather than solely relying on the R-squared value. In some research contexts, the practical significance of the model's predictive power may be more important than the absolute value of the R-squared (Hair et al., 2017). For example, a business model with a lower R-squared value that provides actionable insights and leads to improved decision-making may be more valuable than a high R-squared value lacking practical utility.

4.8.2 Effect Size (F^2)

Table 27 below shows the effect sizes (F^2) of various predictors on the outcome variable, the bank's financial performance. Effect size measures the magnitude of each predictor's impact on the dependent variable relative to the proportion of unexplained variance in the model.

According to the guidelines proposed by Cohen (1988), the interpretation of effect sizes is crucial. An effect size F^2 over 0.35 is considered a high effect, and from 0.15 to 0.35 is regarded as a medium effect size. A small impact size is indicated when F^2 is between 0.02 and 0.15, while values less than 0.02 are classified as NO effect size. The effect sizes can be interpreted as follows:

Environmental performance has a large effect size ($F^2 = 0.389$) on the bank's financial performance, indicating that it substantially contributes to the explained variance in the model. Environmental policies and goals have a small to medium effect size ($F^2 = 0.139$), suggesting they moderately impact the bank's financial performance. Governance has a medium to large effect size ($F^2 = 0.302$), implying that it plays a significant role in explaining the bank's financial performance variance. Green lending has a minimal effect size ($F^2 = 0.007$), indicating minimal impact on the bank's financial performance.

Green processes and procedures have a medium to large effect size ($F^2 = 0.279$), suggesting that they contribute considerably to the explained variance in the model. Green products and services have a minimal effect size ($F^2 = 0.008$), implying that their impact on the bank's financial performance is negligible. Social performance has a medium effect size ($F^2 = 0.217$), indicating that it moderately influences the bank's financial performance.

The table demonstrates that environmental performance, governance, and green processes and procedures substantially impact the bank's financial performance, with effect sizes ranging from medium to large, Environmental policies and goals and social performance have a moderate effect, while green lending and green products and services have minimal impact on the outcome variable.

Table (27) Factors Influencing Bank's Financial Performance: F2 Values

Predictors	Outcome	F2
Environmental performance	Bank's Financial Performance	0.389
Environmental policies and goals		0.139
Governance		0.302
Green Lending		0.007
Green processes and procedures		0.279
Green products and services		0.008
Social Performance		0.217

4.8.3 The Goodness of Fit of the Model (GoF)

We have used the Goodness of Fit of the model, as shown in Table 28 below, to show if the model is fit and can be measured, presenting the model fit indices for the saturated and estimated models generated by SmartPLS 4. The standardized root mean square residual (SRMR) measures the average discrepancy between the observed and model-implied correlations (Henseler et al., 2014). A value of less than 0.08 is considered a good fit (Hu & Bentler, 1999). In our study, both the saturated and estimated models have an SRMR value of 0.04, indicating a well-fitting model.

The squared Euclidean distance (d_ULS) is the squared difference between the correlation matrix of the empirical data and the model-implied correlation matrix (Henseler et al., 2014). Lower values of d_ULS suggest a better-fitting model. In our case, both the saturated and estimated models have a d_ULS value of 1.102, which is considered acceptable. Overall, the model fit indices suggest that our proposed model is well-suited to the data, as evidenced by the acceptable SRMR and d_ULS values."

Table 28: Model Fit Indices for the Saturated and Estimated Models

	Saturated model	Estimated model
SRMR	0.04	0.04
d_ULS	1.102	1.102

4.9 Hypothesis Testing

Table (29) presents the results of a statistical analysis examining the direct influence of various factors on a bank's financial performance. The factors include environmental performance, social performance, governance, environmental policies and goals, green lending, green processes and procedures, and green products and services.

The analysis tests hypotheses H1 to H7, which propose that each factor directly influences the bank's financial performance.

The table provides each path's sample mean (M), T statistics, and P values. The sample mean represents the average effect of the independent variable on the dependent variable. The T statistics indicate the significance of the relationship, with higher values suggesting a more significant effect. The P values determine the statistical significance of the results, with values below 0.05 considered significant. The terms "supported" and "not supported" indicate whether the data validate the research hypothesis: "supported" means the relationship is statistically significant, while "not supported" means the expected relationship does not hold based on the analysis.

The findings indicate that the bank's environmental, social, and governance (ESG) factors significantly impact its financial performance. Hypothesis 1 (H1) is supported, showing that the bank's environmental performance has a strong, direct positive influence on financial outcomes, with a highly significant p-value of 0 and a t-value of 7.05, suggesting that well-managed environmental practices can improve profitability. Similarly, Hypothesis 2 (H2) reveals that social performance, including the bank's efforts in community engagement and employee relations, has a significant positive effect on financial performance ($P = 0$, $T = 5.022$). For Hypothesis 3 (H3), governance practices, such as strong leadership and transparent decision-making, are directly linked to improved financial outcomes ($P = 0$, $T = 4.827$). Hypothesis 4 (H4) highlights that environmental policies and goals, including sustainability targets, contribute positively to financial performance ($P = 0.002$, $T = 3.046$). However, Hypothesis 5 (H5) is not supported, as green lending did not directly correlate with financial performance ($P = 0.438$, $T = 0.775$),

indicating that simply offering environmentally friendly loans may not have an immediate financial impact. Similarly, Hypothesis 6 (H6) is not supported, as green products and services were not found to directly affect financial performance ($P = 0.638$, $T = 0.47$), suggesting that introducing such products may require time or other factors to influence financial results. Finally, Hypothesis 7 (H7) is supported, showing that the bank's implementation of green processes and procedures positively affects its financial performance ($P = 0$, $T = 3.653$), likely due to cost savings, efficiency improvements, or enhanced reputational benefits.

The analysis supports the hypotheses that environmental performance, social performance, governance, environmental policies and goals, and green processes and procedures directly influence the bank's financial performance. However, it does not support the hypothesis that green lending and green products and services directly influence the bank's financial performance.

Table 29: Hypothesis Testing Results for the Direct Impact of ESG Factors and Banks' Green Initiatives on Banks' Financial Performance

Hypothesis		Sample mean (M)	T statistics	P values	Conclusion
H1	Environmental Performance -> Bank's Financial Performance	0.163	7.05	0.000	Supported
H2	Social Performance -> Bank's Financial Performance	0.211	5.022	0.000	Supported
H3	Governance -> Bank's Financial Performance	0.246	4.827	0.000	Supported
H4	Environmental Policies and Goals -> Bank's Financial Performance	0.173	3.046	0.002	Supported
H5	Green Lending -> Bank's Financial Performance	-0.026	0.775	0.438	Not Supported
H6	Green products and services -> Bank's Financial Performance	0.051	0.47	0.638	Not Supported
H7	Green Processes and Procedures -> Bank's Financial Performance	0.223	3.653	0.000	Supported

The study employed T-statistics rather than coefficient errors for hypothesis testing due to several methodological advantages. T-statistics are particularly suitable for PLS-SEM analysis as they provide a standardized measure of the significance of path coefficients while accounting for sample size (Hair et al., 2017). Unlike coefficient errors, T-statistics allow direct comparison across path relationships regardless of their measurement scales. Additionally, T-statistics are more robust to non-normal data distributions, which is particularly relevant for studies in emerging fields like green banking, where data may not perfectly follow normal distributions (Hair et al., 2019). This approach aligns with established practices in banking sector research (Platonova et al., 2018; Bose et al., 2021).

The path diagram in Figure 8 illustrates the relationships between various Environmental, Social, and Governance (ESG) factors and green initiatives and their impact on a bank's financial performance. The diagram has been conducted using SmartPLS and displays the standardized path coefficients, which indicate the strength and direction of the relationships between the variables. Additionally, the significance of each path is denoted by the corresponding p-values.

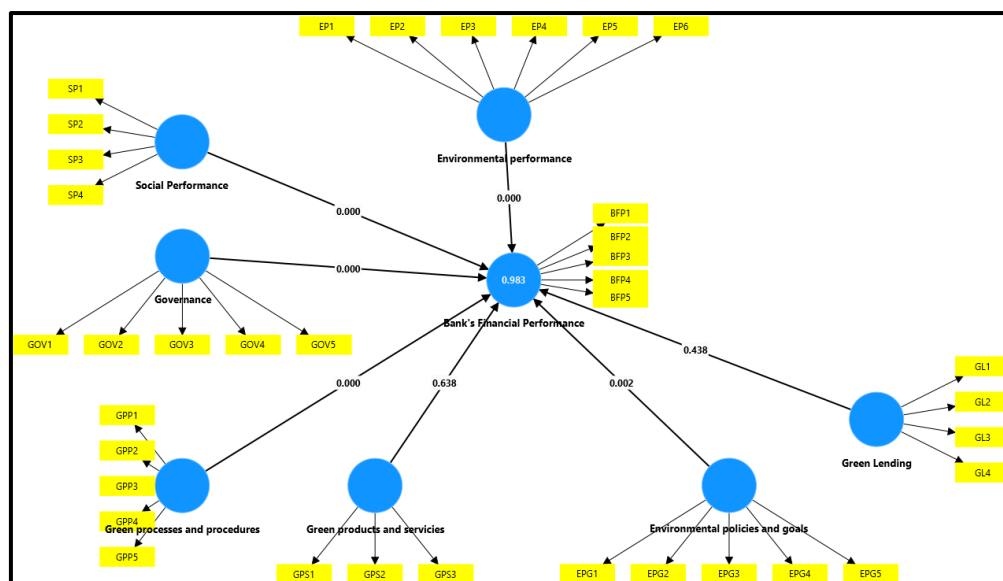


Fig 8: Path Coefficients and Significance of ESG Factors and Green Initiatives on Bank's Financial Performance

Table (30) summarizes the mediation analysis results for seven different relationships between various independent variables (IVs) and the bank's financial performance (DV), with green banking perceived value as the mediator. The analysis tests the hypotheses H8 to H14. The results show that:

The study results reveal important insights for an executive working in a Bahraini bank. Green banking's perceived value partially mediates the relationship between environmental and financial performance (H8) and between social performance and the bank's financial performance (H9), indicating that while these factors positively influence financial outcomes, the full potential of these relationships is not realized without other contributing factors. However, governance, environmental policies and goals, and green lending (H10, H11, and H12, respectively) do not show a mediating effect through green banking's perceived value on financial performance, suggesting that the bank's efforts in these areas may not directly translate into financial gains through customer perceptions of green banking alone. This highlights the need for stronger or alternative strategies in these areas. On the other hand, green banking's perceived value fully mediates the relationship between green products and services (H13), green processes and procedures (H14), and financial performance. This means that investments in these specific green initiatives lead to significant financial returns when customers recognize their value. For an executive, this implies enhancing and promoting green products and services and improving internal processes to maximize financial outcomes and customer loyalty.

The mediation analysis supports the hypothesis that green banking perceived value mediates the relationships between environmental performance, social performance, green products and services, and green processes and procedures with the bank's financial performance. However,

it does not support the hypothesis that green banking perceived value mediates the relationships between governance, environmental policies and goals, and green lending with the bank's financial performance.

Table 30 presents the mediation analysis results, which investigates the role of Green Banking Perceived Value as a mediator between various Environmental, Social, and Governance (ESG) factors, green initiatives, and a bank's financial performance. The table identifies the independent, mediators, and dependent variables for each mediation analysis, the type of mediation observed, and the corresponding hypotheses. The results indicate that Green Banking Perceived Value is a strong partial mediator between Environmental Performance and Social Performance and the bank's financial performance. It also serves as a full mediator between Green Products and Services, Green Processes and Procedures, and the bank's financial performance. However, no mediation effect has been found for green lending, governance, and environmental policies and goals. These findings provide insights into the complex relationships between ESG factors, green initiatives, and a bank's financial performance, highlighting the vital role of Green Banking Perceived Value in some of these relationships.

Table (30) Mediation Analysis: The Role of Green Banking Perceived Value in Mediating the Relationship between Green Banking Initiatives, ESG Factors, and Bank's Financial Performance

Environmental Performance					
Hypothesis (H8)	Type of effect	Path Coefficient	T stats	p-value	Remark
Indirect Effect	Environmental Performance -> Green Banking Perceived Value -> Bank's Financial Performance	0.091	8.596	0.002	Sig Indirect Effect
Direct Effect	Environmental Performance -> Bank's Financial Performance	0.072	7.041	0.000	Sig Direct Effect
Total Effect	Environmental Performance -> Bank's Financial Performance	0.163	7.044	0.000	Sig Total Effect
Conclusion	Supported				
Social Performance					
Hypothesis (H9)	Type of effect	Path Coefficient	T stats	p-value	Remark

Indirect Effect	Social Performance -> Green Banking Perceived Value -> Bank's Financial Performance	0.053	5.87	0.000	Sig Indirect Effect
Direct Effect	Social Performance -> Bank's Financial Performance	0.156	7.532	0.000	Sig Direct Effect
Total Effect	Social Performance -> Bank's Financial Performance	0.209	15.49	0.000	Sig Total Effect
Conclusion	Supported				
Governance					
Hypothesis (H10)	Type of effect	Path Coefficient	T stats	p-value	Remark
Indirect Effect	Governance -> Green Banking's Perceived Value -> Bank's Financial Performance	0.000	0.185	0.853	Non-Sig Indirect Effect
Direct Effect	Governance -> Bank's Financial Performance	0.246	4.838	0.000	Sig Direct Effect
Total Effect	Governance -> Bank's Financial Performance	0.246	4.838	0.000	Non-Sig Total Effect
Conclusion	Not Supported				
Environmental Policies and Goals					
Hypothesis (H11)	Type of effect	Path Coefficient	T stats	p-value	Remark
Indirect Effect	Environmental policies and goals-> Green Banking's perceived value -> Bank's Financial performance	0.001	0.327	0.744	Non-Sig Indirect Effect
Direct Effect	Environmental Policies and Goals -> Bank's Financial Performance	0.173	3.053	0.002	Sig Direct Effect
Total Effect	Environmental Policies and Goals -> Bank's Financial Performance	0.174	3.067	0.002	Sig Total Effect
Conclusion	Not Supported				
Green Lending					
Hypothesis (H12)	Type of effect	Path Coefficient	T stats	p-value	Remark
Indirect Effect	Green Lending -> Green Banking's perceived value -> Bank's Financial performance	0.001	0.771	0.305	Non-Sig Indirect Effect
Direct Effect	Green Lending -> Bank's Financial performance	-0.027	0.843	0.399	Non-Sig Direct Effect
Total Effect	Green Lending -> Bank's Financial performance	-0.026	0.801	0.423	Non-Sig Total Effect
Conclusion	Not Supported				
Green products and services					
Hypothesis (H13)	Type of effect	Path Coefficient	T stats	p-value	Remark
Indirect Effect	Green products and services -> Green Banking's perceived value -> Bank's Financial performance	0.033	4.87	0.005	Sig Indirect Effect
Direct Effect	Green products and services -> Bank's Financial performance	0.056	0.532	0.594	Non-Sig Direct Effect
Total Effect	Green products and services -> Bank's Financial performance	0.089	0.49	0.624	Non-Sig Total Effect
Conclusion	Supported				
Green Processes and Procedures					

Hypothesis (H14)	Type of effect	Path Coefficient	T stats	p-value	Remark
Indirect Effect	Green processes and procedures -> Green Banking's perceived value -> Bank's Financial performance	0.133	3.87	0.000	Sig Indirect Effect
Direct Effect	Green Processes and Procedures -> Bank's Financial Performance	0.221	3.599	0.000	Sig Direct Effect
Total Effect	Green Processes and Procedures -> Bank's Financial Performance	0.354	10.49	0.000	Sig Total Effect
Conclusion	Supported				

The table shows that Green Perceived Value fully mediates the relationship between Green processes and procedures, Green products and services, and the Bank's financial performance. Green Perceived Value partially mediates the relationship between environmental performance and social performance and the bank's financial performance. Also, Green Perceived Value does not mediate the relationship between Governance, Environmental policies and goals, Green Lending, and the Bank's financial performance.

The results suggest that while some green practices primarily influence financial performance by enhancing the bank's green image, others have a more direct impact on the bottom line. This understanding can help banks strategically prioritize their sustainability efforts. For instance, they might focus on improving green processes and offering green products to boost their perceived value while working on governance and green lending practices for direct financial benefits. Ultimately, these insights can guide banks in developing a comprehensive sustainability strategy that balances image enhancement with tangible financial outcomes.

These findings align with and differ from similar studies in other cultural contexts. The positive relationship between environmental and financial performance mirrors findings from Malaysia (Yusoff et al., 2018) and Bangladesh (Bose et al., 2021), suggesting some universality in this

relationship across Islamic banking contexts. However, the lack of direct impact from green lending on financial performance contrasts with findings from China (Zhang et al., 2022) and European banks (Zhu et al., 2020), where green lending showed significant positive effects.

The mediating role of green perceived value in Bahrain's banking sector shows similarities to findings from Indonesia (Wungkana et al., 2023). Still, it differs in magnitude, possibly due to cultural differences in environmental awareness and banking preferences. This variation might reflect the Gulf region's unique economic context and the relatively recent emphasis on environmental sustainability compared to more established green banking markets.

The rejection of hypotheses regarding green lending (H5) and green products/services (H6) warrants deeper examination. These findings may reflect the nascent stage of green banking in Bahrain, where such initiatives are still developing. As Abdulla and Naser (2021) note, Bahraini banks are in the early phases of implementing comprehensive green banking strategies. The lack of direct financial impact might also indicate that customers in Bahrain continue to prioritize traditional banking benefits over environmental considerations, a pattern observed in other emerging markets (Almeer & Almaamari, 2022).

These unsupported hypotheses suggest essential implications for green banking development in Bahrain. Banks need to develop more sophisticated green lending frameworks, enhance customer awareness about green banking benefits, create more attractive green products that balance environmental and financial benefits, and consider longer-term measurement horizons for assessing the financial impact of green initiatives

4.10 Chapter Summary

In this chapter, we presented a comprehensive analysis of the data collected and findings on green banking initiatives and financial performance in Bahrain's banking sector. The chapter begins with a thorough data preparation process, which revealed no missing data due to the mandatory completion of electronic surveys. The analysis found no extreme outliers using z-score analysis, and the data was determined to be approximately normally distributed based on skewness and kurtosis values.

The multicollinearity assessment, conducted through correlation analysis and Variance Inflation Factors (VIF), indicated acceptable levels of collinearity among predictor variables, ensuring the reliability of subsequent analyses. The descriptive analysis provided insights into the demographic composition of the respondents, revealing a predominantly middle-aged, educated workforce with significant experience in managerial positions. This analysis also showed high levels of implementation across various green banking initiatives and ESG factors, while moderate levels of green banking perceived value were reported.

The measurement model assessment demonstrated strong convergent validity through high factor loadings, composite reliability, and average variance extracted values. Discriminant validity was confirmed using the Fornell-Larcker criterion and cross-loading analysis, further validating the construct measures. The structural model assessment revealed a high adjusted R-squared value of 0.983, indicating exceptional explanatory power of the model. Effect sizes varied from small to large across different predictor variables, suggesting varying degrees of influence on the outcome variable.

Hypothesis testing yielded mixed results. Support was found for hypotheses related to the direct effects of environmental performance,

social performance, governance, environmental policies and goals, and green processes and procedures on financial performance. However, no support was found for the direct effects of green lending and green products/services on financial performance. The mediation analysis revealed that green banking perceived value mediated the relationships between some predictors (such as environmental and social performance) and financial performance while not mediating others (like governance and green lending).

These findings explain how green banking initiatives and ESG factors directly influence financial performance in Bahrain's banking sector and through perceived value's mediating effect. The results suggest that while many green banking practices are implemented, their impact on financial performance varies. Some initiatives have significant direct effects, while others potentially influence performance through enhanced perceived value.

Chapter 5

Conclusion and Recommendations

5.1 Introduction

This chapter synthesizes the study's key findings on green banking initiatives and their relationship with financial performance in Bahrain's banking sector. It begins with a comprehensive conclusion summarizing the main results and their implications. The chapter then discusses the practical contributions of this research, highlighting its relevance for banking professionals and other stakeholders. The study's limitations are acknowledged, providing context for interpreting the results. Finally, directions for future research are proposed, identifying areas where further investigation could enhance our understanding of green banking and its impacts.

5.2 Conclusion

This study has provided valuable insights into the relationship between green banking initiatives, Environmental, Social, and Governance (ESG) factors, and financial performance in Bahrain's banking sector. The research findings reveal a complex interplay between these elements, with some green banking practices directly impacting financial performance. In contrast, others exert their influence indirectly through green perceived value.

The results indicate that environmental performance, social performance, governance, environmental policies and goals, and green processes and procedures influence banks' financial performance in Bahrain. This influence supports the idea that banks investing in these areas may see tangible financial benefits. However, the study did not find direct

links between green lending or green products/services and financial performance, suggesting that these initiatives may require more time to translate into measurable financial outcomes.

The rejection of the two hypotheses regarding Green lending and green products and services in Bahrain's banking industry and their impact on Financial performance can be explained by noting that several banks in the kingdom are just beginning to explore and implement these environmentally oriented initiatives. Consequently, the complete realization and quantification of their financial impact may not yet be achieved.

Also, the Bahraini banking sector has traditionally focused on conventional banking products and services. The shift towards green finance is a relatively recent phenomenon in the kingdom, driven by growing global awareness and the government's increased focus on sustainability. This transition takes time, and many financial institutions are still developing their green banking strategies and offerings. As a result, green lending and products and services may not yet have achieved the scale or market penetration necessary to significantly impact banks' overall financial performance.

Customer awareness and demand for green banking products in Bahrain are still developing. Many consumers and businesses are only beginning to understand the importance and benefits of green financial options. This gradual shift in consumer behavior means that the uptake of green lending and products may be slower than in some other markets, potentially explaining their limited impact on financial performance thus far.

In addition, bank clients in Bahrain continue to prioritize the concrete advantages provided by banks over the advantages delivered to the

environment and society. They prefer a bank offering a greater range of amenities or a more competitive interest rate rather than a bank prioritizing environmental concerns.

While supportive of sustainability initiatives, Bahrain's regulatory environment regarding green finance is still evolving. While the Central Bank has taken steps to promote sustainable finance, specific regulations and incentives for green lending and products are still being developed. This regulatory landscape may have influenced the pace at which banks have implemented these particular green initiatives, potentially limiting their current financial impact.

Bahrain's unique economic context must also be considered. The economy, historically reliant on oil and gas, is in the midst of a diversification effort. This transition may influence how quickly and extensively banks can shift towards green lending and products, especially when traditional sectors still play a significant economic role. The financial returns from green initiatives may take more time to materialize in this context, which could explain the lack of a direct impact on banks' financial performance at this stage.

Interestingly, the research uncovered the significant mediating role of green banking's perceived value. This factor partially mediates the relationship between environmental performance, social performance, and financial performance. The partial mediation by green banking's perceived value suggests that environmental and social performance factors directly contribute to financial performance in Bahraini banks. However, these initiatives indirectly influence financial performance by shaping customers' perceptions of the bank's green value proposition. This implies that while environmental and social factors are essential, Bahraini banks

should also focus on effectively communicating the value of these factors to customers to maximize their financial impact.

Moreover, it fully mediated the relationship between green products and services, green processes and procedures, and financial performance. The full mediation by green banking's perceived value indicates that customers' perceptions entirely explain the relationship between green products, services, processes, procedures, and financial performance. In other words, simply offering green products or implementing green processes does not directly lead to improved financial performance in Bahraini banks. Instead, customers must perceive these initiatives as valuable and translate them into financial gains. This underscores the critical role of customer education, marketing, and awareness campaigns in the success of green banking initiatives in Bahrain. These findings highlight the importance of customer perceptions in translating green initiatives into financial success.

The findings regarding green products and services in the Bahraini banking sector provide valuable insights into the complex relationship between green initiatives and financial performance. The absence of a direct effect between green products and services and financial performance suggests that merely offering eco-friendly banking solutions does not guarantee improved financial outcomes. Instead, the full mediation by green banking's perceived value highlights the crucial role of customer perceptions in translating these initiatives into financial success.

This result underscores the importance of effectively communicating the value and benefits of green products and services to customers. Bahraini banks must go beyond simply introducing green offerings and focus on educating customers about these products' environmental impact and advantages. Financial institutions can create a strong link between their

green initiatives and financial performance by shaping positive customer perceptions and demonstrating the tangible value of green banking.

Moreover, the full mediation effect emphasizes the need for Bahraini banks to align their green products and services with customer preferences and expectations. Banks should conduct market research to identify eco-friendly features and benefits that resonate with their target audience. By tailoring their green offerings to meet customer demands and effectively showcasing their value, banks can enhance the perceived value of their green banking initiatives and, consequently, improve their financial performance.

The study's results align with and extend previous research in the field. For instance, the positive relationship between environmental performance and financial performance corroborates findings by Sangiseti and Venkata (2022). Similarly, the mediating role of perceived value in the relationship between green initiatives and financial performance supports and expands on the work of Doszhanov and Ahmad (2015).

It is crucial to contextualize these findings within Bahrain's commitment to environmental sustainability and green finance. The Bahraini government has demonstrated a solid commitment to environmental protection and sustainable development, evidenced by its National Energy Efficiency Action Plan (SEA Bahrain, 2017) and pledge to achieve net-zero carbon emissions by 2060 (BNA, 2022). The Central Bank of Bahrain has also taken steps to promote sustainable finance, issuing guidelines for ESG reporting by financial institutions (CBB, 2022).

These governmental initiatives create a supportive environment for green banking practices. As revealed in this study, the alignment between national policy and the banking sector's green initiatives suggests a positive trajectory for sustainable finance in Bahrain. However, the varying impacts

of different green banking practices on financial performance indicate that banks may need to strategically prioritize their sustainability efforts to maximize environmental and financial benefits.

This research provides evidence that green banking initiatives can contribute positively to banks' financial performance in Bahrain, directly or through enhanced perceived value. The findings underscore the importance of a holistic approach to sustainability in banking, encompassing environmental, social, and governance factors. As Bahrain continues its journey towards a more sustainable future, the banking sector has a crucial role to play, and this study suggests that embracing green banking practices can be both environmentally responsible and financially rewarding.

The findings suggest several potential policy measures to enhance green banking effectiveness in Bahrain. From a regulatory perspective, there is a need to strengthen the existing ESG reporting requirements initiated by the Central Bank of Bahrain (CBB, 2022), develop more specific green lending guidelines with clear taxonomies, and introduce robust incentive mechanisms for banks that achieve green targets. These regulatory enhancements should be complemented by market development measures, including creating a comprehensive green bond market infrastructure, establishing standardized green certification processes for banking products, and developing dedicated green banking performance indices to track progress and facilitate comparison across institutions.

Furthermore, the success of green banking initiatives depends heavily on capacity building within the sector. This could be achieved by implementing mandatory green banking training programs, establishing knowledge-sharing platforms between banks, and creating industry-wide green banking benchmarks. These measures would help build the

necessary expertise and infrastructure while fostering a collaborative environment for sustainable banking practices. Such comprehensive policy measures would create a more conducive environment for green banking initiatives to flourish and contribute more effectively to both environmental sustainability and financial performance in Bahrain's banking sector.

5.3 Contribution to Theory

This study makes several significant theoretical contributions to green banking literature. The research extends stakeholder theory by demonstrating how green banking initiatives affect various stakeholder groups differently in an emerging market context. It also advances legitimacy theory by showing how green banking practices contribute to organizational legitimacy through direct performance improvements and enhanced stakeholder perceptions. Additionally, the study contributes to institutional theory by revealing how institutional pressures for sustainability manifest in Bahrain's unique banking environment, particularly in the context of its dual banking system and regulatory framework.

Perhaps most significantly, this research develops a novel theoretical framework that integrates ESG factors, green banking initiatives, and perceived value, providing a more comprehensive understanding of how sustainable banking practices influence financial performance. This integrated framework advances our theoretical understanding of the relationships between environmental initiatives and financial outcomes in the banking sector, particularly within the context of emerging markets and Islamic banking systems. By combining multiple theoretical perspectives and demonstrating their interconnections, this study provides a more nuanced and complete theoretical foundation for understanding the

complex relationships between green banking practices and financial performance in developing economies.

5.4 Contribution to Practice

This research offers several evidence-based contributions to practice. First, the strong correlation ($r=0.88$) between environmental and financial performance suggests that banks should prioritize environmental initiatives. The data shows that green processes and procedures have a significant effect size ($F^2=0.279$) on financial performance, indicating banks should focus resources in this area. The mediating role of green perceived value (demonstrated through path analysis) highlights the need for better communication of green initiatives to stakeholders. These findings align with previous research by Bouteraa et al. (2022) while providing specific insights for the Bahraini context.

Secondly, the study highlights the importance of green banking perceived value, suggesting that banks should implement green practices and effectively communicate these efforts with their clients to enhance customer perceptions. Thirdly, the research provides evidence-based insights to inform the development of procedures and incentives to promote sustainable and environment-friendly banking practices. Fourthly, the study underscores the importance of a comprehensive approach to sustainability, encompassing environmental, social, and governance factors. This importance can guide banks in developing more integrated sustainability strategies. Fifthly, the research suggests that banks may need to develop new metrics to capture the long-term and indirect benefits of some green banking initiatives, particularly in green lending and products/services.

Finally, banks can significantly enhance their sustainability efforts by establishing a dedicated Sustainability Committee to drive and oversee environmental initiatives. This committee should spearhead the implementation of comprehensive internal sustainability programs, encompassing employee training on environmental issues, energy efficiency measures, waste reduction strategies, and the promotion of digital banking to reduce paper usage.

By fostering a culture of environmental responsibility among employees and integrating sustainable practices into daily operations, banks can improve their sustainability rankings, enhance their corporate reputation, attract environmentally conscious customers and investors, and achieve cost savings through increased efficiency. This holistic approach positions the bank as a leader in sustainable finance. It aligns with global sustainability goals and regulatory requirements, providing a competitive advantage in the increasingly eco-conscious market. Ultimately, these efforts contribute to environmental preservation while ensuring long-term business success, demonstrating that financial institutions can advance sustainability within the industry and beyond.

5.4 Limitations

The present study offers significant insights, yet it is imperative to recognize its inherent limitations. First, the geographical scope, as the study focuses solely on Bahrain's banking sector, may limit the generalizability of the findings to other countries or regions.

Second, the study's cross-sectional nature captures a snapshot in time, potentially missing long-term trends or delayed effects of green banking initiatives as the relationships evolve. This may affect green banking practices and banking performance. Lastly, the concepts of ESG

(Environmental, Social, and Governance) or green banking initiatives are relatively new in Bahrain compared to more developed economies; respondents such as bank customers might have a limited understanding or awareness, which could affect the quality of responses now that is why we choose to survey by banking senior staff.

These limitations likely impacted our findings in specific ways. The cross-sectional nature of the data means we cannot capture how relationships between variables evolve, potentially underestimating the long-term benefits of green initiatives. Focusing on banking professionals' perspectives may have resulted in more optimistic assessments of green banking implementation than other stakeholders would have reported. However, following Saunders et al.'s (2019) recommendations for rigorous methodology helped minimize these impacts. Future studies could address these limitations through longitudinal designs and multiple stakeholder perspectives.

5.5 Future Research

Several avenues for future research are proposed based on this study's findings and limitations. Longitudinal studies could track the long-term impacts of green banking initiatives on financial performance over time. Cross-country comparisons expanding to other Gulf Cooperation Council or Middle East and North African countries could provide valuable comparative insights. Future work could incorporate more objective financial and environmental performance data to complement self-reported measures.

Directly surveying bank customers could shed light on how green banking initiatives influence their perceptions and behaviors. Research into how different regulatory approaches impact the adoption and effectiveness

of green banking practices could yield essential policy insights. Exploring the role of financial technology in facilitating green banking initiatives and investigating the intersection of green banking and Islamic finance principles could be fruitful areas for future inquiry. While some of these directions may not be feasible in the short term due to resource constraints, they represent essential longer-term research goals to further enhance our understanding of green banking and its impacts.

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Appendix (1)

The Study Final Questionnaire

Questionnaire

Title: Examining the relationship between Green Banking Initiatives and Financial Performance of banking sector in the Kingdom of Bahrain

Dear Respondent,

This questionnaire is a vital component of an academic research project conducted by the researcher, pursuing a Ph.D. in Environment and Sustainable Development at the University of Bahrain. The focus of this research is to comprehensively examine the relationship between Green Banking Initiatives and Financial Performance within the banking sector in the Kingdom of Bahrain. Your valuable insights, derived from your experience and perspectives, are crucial in contributing to the depth and breadth of knowledge in this field. Your input is invaluable and will significantly enhance the scholarly contribution of this research.

Section 1: Demographics questions

Age in years

18-25	26-35	36-45	46-55	>55
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Gender

Male	Female
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Qualification

Diploma	Bachelor	Master	PhD	Only Professional Qualification (e.g. ACCA, CA)
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Position

Executive	Assistant Manager	Manager	Senior Manager	Deputy General Manager	General Manager
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Number of years of experience

<5	5-10	11-15	16-20	>20
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Section 2: Specific Questions

Please indicate your level of agreement with the statements given below by rating with an "X" against each item on the five-point Likert scale shown below.

1	2	3	4	5
Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree

ESG sustainability

Environmental, Social, and Governance (ESG) performance of banks indicate the concern of banks in supporting industries that operate taking into account the importance of the ESG factors (Nemoto & Liu, 2020). Each one of those factors are measured separately using instruments provided below.

Environmental performance of banks indicates the support provided by banks to industries to ensure environmental sustainability (e.g. reduction in carbon emission, energy requirements of products and services, waste reduction, waste recycling etc.) (Daniel, 2023).

Constructs	Items	1	2	3	4	5
Environmental performance						
Q1	My bank enabled reduction in carbon emissions through green banking activities.					
Q2	My bank reduces waste production as part of green banking practices.					
Q3	My bank is concerned about waste recycling as part of green banking practices.					
Q4	My bank is concerned about waste management as part of green banking practices.					
Q5	My bank's compliance with environmental standards improved through green banking practices.					
Q6	My bank ensured reduction in energy consumption in the bank significantly through green banking practices.					

Social performance of banks indicates the support provided by banks to industries to ensure social sustainability (e.g. consumer satisfaction, image of the bank, relationship between stakeholders like suppliers and customers and compliance with social laws and regulations) (Daniel, 2023).

Constructs	Items	1	2	3	4	5
Social performance						
	My bank ensures better customers' satisfaction through green banking practices					
	My bank's green banking practices have positive effect on the image of my bank					
	My bank's green banking practices resulted in better relationship amongst the stakeholders.					
	My bank's green banking practices resulted in increased compliance with applicable social laws and regulations.					

Governance of banks indicates the commitment of the bank to support the industries to ensure sustainable performance (e.g. initiating creative green finance policies, implementation of green finance policies, budgetary support for green finance practices, training to employees in green financing, monitoring and compliance with green finance practices and responsible behavior regarding sustainability) (Daniel, 2023; Yuan & Cao, 2022; Malsha et al., 2020).

Constructs	Items	1	2	3	4	5
Governance						
	Top management of my bank ensures creative green finance policies are initiated for their implementation.					

Constructs	Items	1	2	3	4	5
	Top management of my bank ensures budgetary support for green finance practices.					
	Top management of my bank ensures regular green finance training.					
	Top management of my bank ensures regular monitoring and compliance of bank green finance practices.					
	Top management of my bank behaves responsibly regarding sustainability.					

Green banking initiatives

Green banking initiatives are activities of banks that enable the banks to indirectly contribute to the improvement of environment by making improvements in technological aspects, improvements in operations and changing habits of clients in the banking sectors. Those initiatives also enable banks to promote environment friendly products, processes and technology leading to reduction in carbon footprint (Shaumya & Arulrajah, 2016). Such initiatives are divided into four types namely environmental policies and goals, green lending, green products and services and green process and procedures (Malsha et al. (2020). Each one of the four types of green banking initiative measuring instruments are given below.

Environmental Policies and Goals describe the environmental management practices that will be adopted by banks enforced by laws governing environmental legislation. In addition to that concern over liability, direct and indirect costs of regulatory compliance, concern about overall firm competitiveness and public concern about environmental degradation also determine the environmental policies and goals of the banks (Sheikh & Odock, 2019).

Constructs	Items	1	2	3	4	5
Environmental Policies and Goals						
	In my bank environment audit is done regularly.					
	In my bank has put in place environmental (green) policy and pollution prevention plans.					
	My bank has a dedicated Environmental/Energy Manager.					
	My bank has entered into environmental related agreement stakeholders concerned (e.g. suppliers, customers, etc.).					
	My bank has implemented incentive programs for environmental suggestions provided by employees.					
	My bank has implemented green environmental performance evaluation practices (e.g. energy saving measures, environmental sustainability measures).					

Green lending involves making decisions by banks that take into account environmental protection with regard to both commercial and wholesale banking (example providing loan to environmental protection, energy-saving related projects, site visits, assessing third-party reporting on loan proposal, accessing client's environmental records and promoting environmental oriented firms that have facilities) (Malsha et al., 2020).

Constructs	Items	1	2	3	4	5
Green lending						
	In my bank the environmental records of clients are examined before lending.					
	In my bank third-party (Central Environmental Authority) reporting on loan proposal are assessed before lending.					
	In my bank loans are lent at low rates of interest to firms involved in environmental protection and energy saving projects.					
	In my bank environmental oriented firms are promoted through special grants, loans and guidance.					

Green products and services involve development of products and services that meet customer demands for sustainable choices and friendly to the environment (e.g. electronic and online banking, mobile banking, and green deposit schemes) (Malsha et al., 2020).

Constructs	Items	1	2	3	4	5
Green products and services						
	In my bank, investments are made in electronic and online banking services.					
	In my bank, investments are made in mobile banking.					
	In my bank green deposit schemes are developed.					

Green process and procedures involve adoption of operations that reduce the operational footprint impacts on the environment (e.g. adoption of recycling programmes to energy conservation programmes) (Malsha, Arulrajah & Senthilnathan, 2020).

Constructs	Items	1	2	3	4	5
Green process and procedures						
	In my bank e-waste management practices are implemented.					
	In my bank green branches involving energy efficient buildings are set up.					
	In my bank alternative means to paperwork are used (e.g. e-mails).					
	In my bank environmentally friendly banking practices are implemented (e.g. electronic statements, online approval systems etc.)					
	In my bank equipment, system solutions and practices that are used are energy efficient (e.g. ATMs, LED lighting, SWIFT transfer, etc.).					

Green banking perceived value

The general assessment of the net benefit of a service or a product by a customer based on the judgement of that customer is called perceived value. So in the case of a bank green banking perceived value is considered to be the net benefit of a service or a product offered by the bank as assessed by the customer based on the judgment of the customer. Examples of green banking perceived value could be using green banking products like green lending, electronic and online banking services and mobile banking which offer net benefit to the customer in terms of environmental and social benefits as well as benefits accruing due to green governance of the bank.

Constructs	Items	1	2	3	4	5
Green banking perceived value						
	It makes sense to customers to use green banking products (example: use of online banking in place of in person banking) instead of other products because of its environmental commitments.					
	Even if another banking product has the same features, customers would prefer to use banking products with environmental commitments (example use of mobile banking in place of banking using paper).					
	Even if there is another banking product that is as good as green products in quality, customers prefer to use green one (example: green banking deposit scheme).					
	If there is no environmental concern built into other banking products, customers feel that it is smarter to use green banking products (example: green mortgage).					

Bank financial performance

It is considered as the impact of business activity on stakeholder satisfaction (it could be the satisfaction of the owners, directors, employees, customers, and society in general) (Dixon et al., 1990). Employees in the banks were asked to grade their level of satisfaction with respect to financial profitability, sales growth, profit, growth, and profit/sales margin. Two more quantities, namely return on asset and return on equity, were added by the researcher.

Please indicate your level of agreement with the statements given below by rating with an "X" against each item on the five-point Likert scale shown below.

1	2	3	4	5
Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied

Constructs	Items	1	2	3	4	5
Financial performance	Please indicate your level of satisfaction with your bank on the following:					
	Financial profitability					
	Sales growth					
	Profit growth					
	Return on asset					
	Return on equity					

Thank you for your time and cooperation.

الملخص

تستكشف هذه الأطروحة العلاقة المعقدة بين مبادرات الخدمات المصرفية الخضراء والعوامل البيئية والاجتماعية والحوكمة والأداء المالي داخل القطاع المصرفي في البحرين، ويتلخص الهدف الأساسي في شرح كيفية تأثير ممارسات الخدمات المصرفية الخضراء واعتبارات الحوكمة البيئية والاجتماعية على النتائج المالية للبنوك بشكل مباشر ومن خلال التأثير الوسيط للقيمة المتصورة للخدمات المصرفية الخضراء.

يستخدم البحث المنهجية الكمية، ولتحقيق أهداف الدراسة تم استخدام نمذجة المعادلات الهيكلية باستخدام المربعات الجزئية الصغرى (SEM-PLS) لتحليل البيانات التي تم جمعها من 198 متخصصاً مصرفياً في 14 بنكاً يعمل في البحرين من خلال استبانة، ويتيح هذا النهج المتطور فحص العلاقات المتعددة بين المتغيرات وتقييم التأثيرات المباشرة وغير المباشرة.

تتبع أصالة الدراسة من فحصها الشامل لمبادرات الخدمات المصرفية الخضراء في مملكة البحرين، وهي دولة تسعى بنشاط إلى تحقيق أهداف التنمية المستدامة. كما تقدم مفهوم القيمة المتصورة للخدمات المصرفية الخضراء كعامل وسيط، مما يوفر رؤى جديدة حول كيفية تأثير تصورات العملاء على العلاقة بين الممارسات الخضراء والأداء المالي.

تكشف النتائج عن صورة مفصلة لتأثير الخدمات المصرفية الخضراء في البحرين، حيث يؤثر الأداء البيئي والأداء الاجتماعي والحوكمة والسياسات والأهداف البيئية والعمليات والإجراءات الخضراء على الأداء المالي للبنوك. إلا أن الدراسة وجدت أن الإقراض الأخضر والمنتجات/الخدمات الخضراء لا تظهر تأثيراً مباشراً كبيراً على الأداء المالي. كما تكشف الدراسة عن الدور الوسيط الحاسم للقيمة المتصورة للخدمات المصرفية الخضراء في العلاقة بين بعض

المبادرات الخضراء والأداء المالي، مما يؤكد على أهمية تصورات العملاء. وعلاوة على ذلك، يشير البحث إلى مستوى عالٍ من التنفيذ عبر مبادرات الخدمات المصرفية الخضراء المختلفة وعوامل ESG في القطاع المصرفي في البحرين.

واستناداً إلى هذه النتائج، توصي الدراسة البنوك بإعطاء الأولوية للمبادرات التي تظهر تأثيرات إيجابية مباشرة على الأداء المالي مع الاستمرار في تطوير مبادرات أخرى لتحقيق فوائد طويلة الأجل. وتؤكد على الحاجة إلى زيادة التركيز على توصيل المبادرات الخضراء لتعزيز القيمة المتصورة للعملاء. كما تقترح الدراسة تطوير مقاييس جديدة للفوائد طويلة الأجل وغير المباشرة لمبادرات الخدمات المصرفية الخضراء. لقد سعت الدراسة لتقديم رؤى يمكن أن تساعد في تطوير الإجراءات التي تعزز ممارسات الخدمات المصرفية المستدامة. وهي محاولة للمساهمة في المعرفة المتنامية للتمويل المستدام. وتقدم الدراسة تطبيقات عملية لمحترفي المصارف والإدارة في البحرين وخارجها، وهي محاولة لتمهيد الطريق لممارسات مصرفية أكثر استدامة وقابلية للتطبيق في المنطقة.

جامعة البحرين



برنامج البيئة والتنمية المستدامة

كلية العلوم

دراسة العلاقة بين مبادرات الصيرفة الخضراء والأداء المالي للقطاع المصرفي في مملكة البحرين

أطروحة مقدمة كجزء من متطلبات الحصول على درجة دكتوراه الفلسفة
في البيئة والتنمية المستدامة

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مملكة البحرين

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