General Court of Audit Journal

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The Role of Eco-Friendly Demand in Sustaining SMEs' Competitive Advantages in Egypt: The Mediating Effects of Eco-Product and Eco-Process Innovations

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The Role of Eco-Friendly Demand in Sustaining (SME's)' Competitive Advantages in Egypt: The Mediating Effects of Eco-Product and Eco-Process Innovations

Abstract

In the green economy era, customer demand has increasingly shifted to eco-friendly products. Nevertheless, there has been a scarcity of studies focused on investigating the impact of the demand for eco-friendly products on a company's ability to sustain its competitive advantage. Therefore, the objective of this research is to investigate how the demand for eco-friendly products contributes to the ability of small and medium-sized enterprises (SME's) to maintain their competitive advantage.

Additionally, the study aims to explore how eco-innovation practices mediate the relationship between the demand for eco-friendly products and sustainable competitive advantage of (SME's). The proposed research framework is examined using empirical research on a sample of (197) manufacturing (SME's) in Egypt. Using (PLS-SEM), the results reveal that the demand for environmentally friendly products acts as a catalyst to encourage manufacturing (SME's) to adopt eco-product and eco-process innovations. According to the data analysis results, manufacturing (SME's) adopt eco-process innovations rather than eco-product innovations in order to gain a sustainable competitive advantage, particularly in terms of cost. Further, the findings show that only when (SME's) adopt eco-process innovation as a low-cost advantage can eco-friendly demand lead to achieving a sustainable competitive advantage. In addition to the theoretical significance, this study also carries practical implications for managers of small and medium-sized enterprises (SME's) as well as policymakers. This study highlights the importance of eco-innovation strategy for (SME's) and stresses the need to consider market demand characteristics in order to attain sustainable competitive advantage.

Keywords: eco-friendly demand, sustainable competitive advantage, eco-innovation, SMEs.

دور الطلب الصديق للبيئة في الحفاظ على المزايا التنافسية للشركات الصغيرة والمتوسطة في مصر: الدور الوسيط للمنتجات صديقة البيئية والعمليات الابتكارية صديقة البيئية

الخلاصة

في عصر الاقتصاد الأخضر تحول طلب العملاء بشكل متزايد إلى المنتجات الصديقة للبيئة. ومع ذلك كانت هناك ندرة في الدراسات التي ركزت على دراسة الطلب على المنتجات الصديقة للبيئة وتأثيرها على قدرة الشركة على الحفاظ على ميزتها التنافسية؛ لذلك فإن الهدف من هذا البحث هو التحقيق في كيفية إسهام الطلب على المنتجات الصديقة للبيئة في قدرة الشركات الصغيرة والمتوسطة (SME's) على الحفاظ على ميزتها التنافسية. بالإضافة إلى ذلك تهدف الدراسة إلى استكشاف الدور الوسيط لممارسات الابتكار البيئي في العلاقة بين الطلب على المنتجات الصديقة للبيئة والميزة التنافسية المستدامة للشركات الصغيرة والمتوسطة. وقد تم اختبار إطار العمل البحثي المقترح باستخدام بحث تجريبي على عينة مكونة من (197) شركة صغيرة ومتوسطة الحجم العاملة في قطاع التصنيع في مصر. وباستخدام اسلوب نمذجة المعادلات الهيكلية بالمربعات الصغرى الجزئية (PLS-SEM)، وكشف النتائج أن الطلب على المنتجات الصديقة للبيئة يعمل كمحفز لتشجيع الشركات الصغيرة والمتوسطة الصناعية على تبني ابتكارات المنتجات البيئية والعمليات البيئية. ووفقًا لنتائج تحليل البيانات تتبنى الشركات الصغيرة والمتوسطة التصنيعية ابتكارات العمليات البيئية بدلاً من ابتكارات المنتجات البيئية من أجل اكتساب ميزة تنافسية مستدامة، لا سيما من حيث التكلفة. علاوة على ذلك تظهر النتائج أنه فقط عندما تتبنى الشركات الصغيرة والمتوسطة ابتكار العمليات البيئية كميزة منخفضة التكلفة يمكن أن يؤدي الطلب الصديق للبيئة إلى تحقيق ميزة تنافسية مستدامة. بالإضافة إلى الأهمية النظرية تحمل هذه الدراسة أيضًا آثارًا عملية على مديري الشركات الصغيرة والمتوسطة الحجم (SME's)، وكذلك صانعي السياسات. وتلقي هذه الدراسة الضوء على أهمية استراتيجية الابتكار البيئي للشركات الصغيرة والمتوسطة، وتؤكد على الحاجة إلى مراعاة خصائص طلب السوق من أجل تحقيق ميزة تنافسية مستدامة.

الكلمات المفتاحية: الطلب الصديق للبيئة، الميزة التنافسية المستدامة، الابتكار البيئي، الشركات الصغيرة والمتوسطة.

1. Introduction

Competition is a continuous and imperative feature of the business world, encountered by organisations that strongly allocate and exploit their resources and capabilities to win the competition (Kuncoro and Suriani, 2018). Sustaining a competitive advantage has become an incessant objective for both big corporations and small and medium enterprises (SME's) (Liu, 2013). Therefore, the issue of sustainable competitive advantage (SCA) has gained considerable attention from academic scholars (Amin and Jarrah, 2018; Othman, Arshad, Aris, and Arif, 2015; Quaye and Mensah, 2018). The (SCA) reflects the ability of organizational resources and capabilities to continue to achieve economic value surpassing other rivals in the same industry. The literature on (SCA) has highlighted that lasting firm superiority over rivals is related to two competitiveness aspects that should be considered: first, the way firms conceive and exploit the external opportunities and challenges. Second, the idiosyncratic manner that firms deploy to combine and use different resources and capabilities to exploit opportunities (Battour et al., 2023; Todericiu and Stanit, 2015).

Green economy is becoming a global concern that may be a challenge or an opportunity to gain business continuity and (SCA) (Saxena and Khandelwal, 2012). Businesses either large companies or (SME's) have been facing considerable pressure exerted by their customers to produce eco-friendly products and services. With converting into eco-friendly product demand, achieving (SCA) becomes a challenge for (SME's). Several studies demonstrated a noticeable rise in (SME's) exit and failure rate of approximately (39.5%), specifically during the first six years, which indicates that (SME's) survival remains a critical challenge (Nnamseh and Akpan, 2015). In addition, (SME's) mostly tend to respond to environmental pressure through following reactive strategy, not proactive strategy. This means that the ability of (SME's) to translate customer pressure exerted through growing eco-friendly product

demand into competitive advantage is increasingly dependent on how these enterprises conceive and exploit environmental opportunities (J. Chen and Liu, 2020). Hence, the question of how (SME's) can exploit the growing eco-friendly product demand to enhance their sustainable competitive advantage has still needed conclusive evidence.

A demand-based perspective is adopted by the strategy literature to highlight the role of consumer needs and preferences in shaping corporate strategy (Adner and Zemsky, 2006; Zhou et al., 2009). The central tenet of this perspective is that heterogeneous customer values and market dynamics are essential drivers for firms to reshape their core strategies (e.g., innovation strategy) and attain competitive advantage (Oh et al., 2022; Zhou et al., 2009). However, very limited studies have argued the importance of eco-friendly demand in enhancing corporate competitiveness. For example, (Lin et al, 2013) concluded that firm performance can be triggered significantly by adopting an eco-innovation strategy in response to market demand for green products. Drawing on a demand-based perspective, this study suggests that by responding to the growing demand for eco-friendly products and services, firms can undertake eco-innovations that help them gain (SCA) in the market. Eco-innovation is one of the most vital concepts that fall within the scope of green economy (OECD, 2009). The term is defined as the "introduction of new products, processes, systems, services and procedures, with competitive prices, matched customer's needs and offer a better life quality, with a lifecycle that uses the minimum natural resources for production and minimum release of toxic substances" (Tsai & Liao, 2017; Xavier et al., 2015).

As elaborated by literature on eco-innovation, eco-innovation can be used as a win-win solution in which (SME's) can not only alleviate customer pressure, but also achieve competitive advantage (J. Chen and Liu, 2020; Xue et al., 2019). Much of the prior research has delved into the drivers of eco-innovation in the manufacturing context

(Ben Amara and Chen, 2022; Wugan Cai and Li, 2018; Fern´andez et al., 2021). Of these drivers, green or eco-friendly demand is acknowledged as an essential determinant to devise an eco-innovation strategy (Ben Amara and Chen, 2022; Mady et al., 2023a). Nevertheless, the empirical evidence on how eco-friendly demand can affect different eco-innovation practices is yet to be proven. In addition, Therefore, this study has used two types of eco-innovation, namely, eco-product innovation and eco-process innovation as mechanisms that can help (SME's) respond to eco-friendly products demand in a way which can enhance their sustainable competitive advantage.

In practice, manufacturing Egyptian (SME's) can be a particularly relevant context for examining the role of eco-friendly demand in sustaining competitive advantage due to several factors. First, manufacturing (SME's) are an important sector of the Egyptian economy, where this sector constitutes over (80%) of the private sector (Smair, 2016). Therefore, it is crucial to examine how this sector responds to market trends and consumer preferences such as consumer demand for environmentally friendly products. Second, there is an increasing global emphasis on the importance of sustainability and proactive environmental practices among (SME's) as this sector causes up to (70%) of emissions and industrial waste (Johnson, 2017).

The objective of this research is twofold: to investigate how eco-friendly product demand can contribute to providing (SCA) to manufacturing (SME's), and to examine how two types of eco-innovation (eco-product innovation and eco-process innovation) play a mediating role in the relationship between eco-friendly product demand and (SCA) among manufacturing (SME's). This study would provide in-depth insights into the role of eco-innovation practices that can be played to meet customer needs and preference for eco-friendly products and to enhance (SME's)` (SCA) simultaneously. Besides providing theoretical implications that can extend the literature on eco-innovation, this study also provides several practical implications for (SME's) manager and policymaker.

This study is structured as follows. Section (2) presents the Literature review and hypotheses development. Section (3) elaborates on the research methodology approaches used. In Section (4), the data analysis and results are presented, and Section (5) discusses the research results. Finally, Section (6) summarizes theoretical and practical implications, research limitations, and future research directions.

2. Literature Review and Hypotheses Developments

2.1. Sustainable Competitive Advantage (SCA)

The issue of sustaining competitive advantage is one of the topics that gained significant attention from various scholars and academics, specifically in the strategic management research cycle (Battour et al., 2021; D'Avei et al., 2010). Literature has often addressed the term (SCA), which is divided into two subsidiary terms: 'sustainable' and 'competitive advantage'. Notably, the former is an adjective that characterises the competitive advantage, but the definition of 'sustainability' has been a debatable issue in the literature (Wiggins and Ruefli, 2003). As indicated by several studies, Competitive advantage has been characterised as sustainable if "the advantage resists erosion by competitor behaviour" (Bharadwaj et al., 1993; Clulow et al., 2003). The primary source of (SCA) lies in the competitive strategy that firms adopt, which creates high value-added products that hinder potential rivals from successfully transforming, implementing, and emulate. Porter's (2016) competitive strategy theory is based on pursuing advantages through analysing the competitive environment and opportunities in the market or industry where firms operate (Ren et al., 2010).

Firms with a high environmental orientation are more likely to develop and share environmental knowledge required to analyse and seize business opportunities through innovating new and developed products, hence developing and enhancing the firms (SCA) (Pratono et al., 2019). Moreover, integrating green orientation into corporate

strategy positively influences firms' competitiveness through aligned marketing activities with customer preferences and other stakeholders' expectations (Papadas et al., 2018). The (SCA) can be positively influenced by innovation when using such innovation to replace and renew the existing competitive advantage in a 'creative accumulation' process, which guarantees persistent competitive advantage (Baaij et al., 2004).

2.2. Small and Medium-sized Enterprises in Egypt.

Small and medium-sized enterprises (SME's) have frequently constituted the backbone of economic growth and well-being, especially for emerging economies. Macroeconomically, (SME's) are thought to create a sizable number of jobs and reduce the distortion in revenue distribution (Kharub and Sharma, 2017; Ulubeyli et al., 2018). According to the Union of Arab Banks (UAB), Egypt is one of the largest countries in the Middle East and Africa in terms of the density and number of working (SME's) (Smair, 2016). Approximately two million (SME's) are working in trade, service, manufacturing, and construction. Manufacturing (SME's) are categorized differently in each country, but in Egypt, these enterprises are defined based on the number of working employees. (SME's) were defined by the Egyptian Central Agency for Public Mobilization and Statistics (CAPMAS) as any businesses with (50) or fewer employees (small) or between (51) and (99) employees (medium-sized) (medium) (Aboelmaged, 2018). The importance of (SME's) can be proven by the fact that this sector accounts for more than (93%) of the private sector and employs around (70%) of the country's workforce (Smair, 2016). This sector also contributes to Egypt's GDP reaching approximately (80%) (Aboelmaged, 2018).

Despite the growing importance of (SME's) in supporting Egyptian economic indicators, Egyptian Central Agency for Public Mobilization and Statistics (CAPMAS) (2018) results stated that approximately (57%) of (SME's) suffer reduced competitiveness due to competition without unique and special features or lack of competitive advantage (CAPMAS,

2018). The Egyptian economy and (SME's) suffer from declining competitiveness; thus, Egyptian (SME's) should seek and exploit new ways to enhance their competitive advantage. Therefore, Egypt adopted the green economy notion in its (2030) sustainability strategy that placed a high priority on enhancing (SME's) competitiveness through sustainable development (MOE, 2016; MOIC, 2015).

2.3. Eco-innovation and its Practices

Eco-innovation is defined as the introduction of new products, processes, systems, services and procedures, with competitive prices, matched customer's needs and offer a better life quality, with a lifecycle that uses the minimum natural resources for production and minimum release of toxic substances (Tsai and Liao, 2017; Xavier et al., 2015). Although there are several classifications for eco-innovation, classifying eco-innovation into distinct three practices, namely, eco-product innovation, eco-process innovation, and eco-organizational innovation has received much attention in the literature on eco-innovation (Mady, Abdul Halim, and Omar, 2022). First, eco-product innovation refers to developing new eco-friendly products and improving the existing ones that consider the environmental impacts (Ch'ng et al., 2021; Triguero et al., 2013). Second, eco-process innovation reflects the developments and improvements in manufacturing operations and processes, contributing to reduce adverse impacts on the environment (C. C. Cheng and Shiu, 2012). Third, eco-organizational innovation includes any new or developed organizational methods or managerial techniques that help firms manage their environmental impact on the environment (Triguero et al., 2013). The study is based on only two types of eco-innovation that can be triggered by eco-friendly demand, which are eco-product innovation and eco-process innovation..

2.4. Eco-friendly Demand and Eco-innovation

With growing calls toward the importance of green orientation to achieve sustainable development goals (SDGs), a large segment of customers, particularly those who have environmental awareness, has

preferred to purchase eco-friendly products and services (Bhavani et al., 2022). Converting into eco-friendly demand requires firms to adopt certain practices or incorporate an eco-friendly market orientation in business strategy (K. W. Green et al., 2015; Mady et al., in press). Several previous studies have indicated that firms that have greater eco-friendly market orientation are more likely to be responsive to shifts in customer demand through adopting eco-innovation strategy (Wugan Cai and Li, 2018; Fernando & Wah, 2017; Triguero et al., 2013). As concluded by (Wugan Cai and Li, 2018) and (Mady et al., 2023b), eco-friendly demand is an essential driving factor for firms to implement eco-innovation strategy. Likewise, (Triguero et al., 2013) elaborated that two types of eco-innovation which are eco-product innovation and eco-process innovation can be triggered by environmentally friendly demand. Besides the need for eco-friendly products and services, customers with higher environmental consciousness can urge firms to adhere to certain production processes aligned with environmental quality standards (Wu-gan Cai and Zhou, 2014). Therefore, the research postulates that the demand for eco-friendly products can serve as a driving force for (SME's) to adopt eco-innovation practices, specifically eco-product innovation and eco-process innovation, as shown below (See Figure 1):

H1: Eco-friendly demand is positively associated with eco-product innovation.

H2: Eco-friendly demand is positively associated with eco-process innovation.

2.5 Eco-innovation Practices and (SCA)

The Eco-innovation Observatory (EIO) (2013) report states that eco-innovation is a new wave of innovation that plays a crucial role in gaining a green and competitive economy. Additionally, by creating a shared value lens, firms can redefine themselves as a part of society by integrating the environmental and community concerns into corporate decisions and strategies (Porter and Kramer, 2011). Eco-innovation enables firms to improve their environmental image and green

reputation compared to other rivals, which is a source of competitive advantage (Albort-Morant et al., 2016; Ar, 2012). Moreover, eco-innovation creates a competitive edge over competitors through differentiating products and processes in environmental aspects. Thus, firms can put premium prices for the products and services as customers, specifically those oriented to green consumerism who tend to purchase eco-friendly products (Albort-Morant et al., 2016; Y. S. Chen et al., 2006; Porter and Van Der Linde, 1995).

Each eco-innovation type singles out a specific set of benefits regarding the contribution to firm performance and its competitive edge. Products with fewer waste pollutants or that work through renewable energies are obvious examples of eco-product innovations. These eco-product innovations can give competitive advantage for firms, such as improvement of a firm`s image and reputation (Cheng and Shiu, 2020; Maldonado-Guzmán and Garza-Reyes, 2020). Environmental aspects of eco-friendly products can provide the firms with outstanding image and reputation and special and differential advantage over other rivals (Al-Abdallah and Al-Salim, 2021; Triguero et al., 2013). Moreover, Eco-process innovation contributes to environmental performance by reducing emissions and contamination from production processes and saving energy, which significantly impacts cost structure and improves the firms green image (Maldonado-Guzmán and Garza-Reyes, 2020; Triguero et al., 2013). Based on the prementioned debate, the study suggested the following hypothesises (As shown in Figure 1):

H3: Eco-product innovation is positively associated with (SCA).
H4: Eco-process innovation is positively associated with (SCA).

2.6. Eco-friendly Demand and (SCA)

Firms following eco-friendly demand are expected to gain sustainable competitive advantage for two main reasons. Firstly, customers are prepared to pay premium prices for eco-friendly products, thus, following eco-friendly demand can represent a business

opportunity and a market niche for those firms with environmental-oriented products and operations (Wugan Cai and Li, 2018; Fernando and Wah, 2017). Secondly, the market for eco-friendly products is growing rapidly, which can be a promising segment for firms to achieve a competitive edge over competitors (Hojnik and Ruzzier, 2016). Therefore, firms that fail to meet the demand for eco-friendly products lose their consumers, adversely affecting their competitiveness. Given that prior studies have not focused on how eco-friendly product demand can impact sustainable competitive advantage (SCA), this study proposes the following hypothesis (as illustrated in Figure 1):

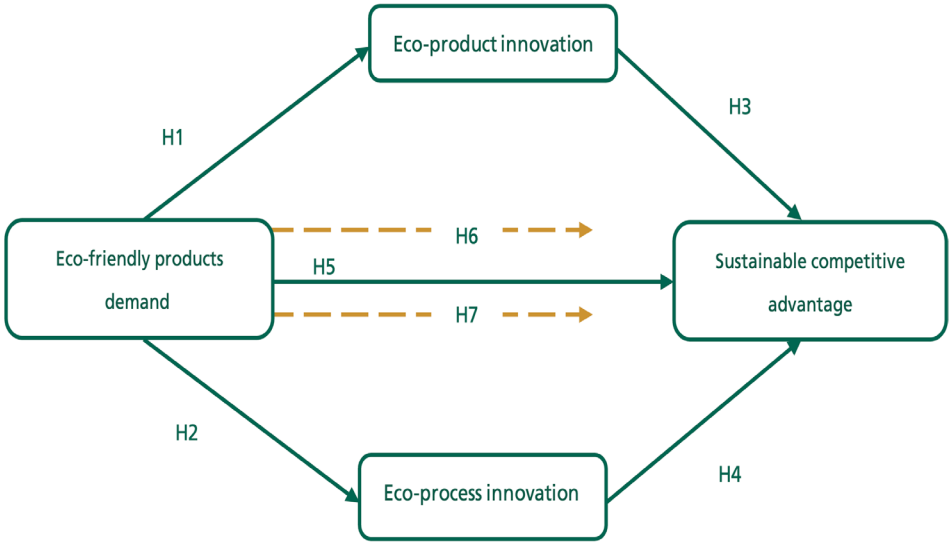
H5: Eco-friendly demand is positively associated with (SCA).

The ability of firms to conceive and exploit the growing demand for eco-friendly products to sustain their competitive advantage depends increasingly on the way used to cater to this demand. This research assumes that eco-innovation types could be the powerful solution through which the eco-friendly demand can be catered, in turn, sustain (SME's)` competitive advantage. Responding to the eco-friendly demand through eco-product innovation can give (SME's) differentiation advantage, wherein (SME's) can enhance their business continuity and competitiveness. Although the cost of producing the eco-friendly products is higher than non-eco-friendly alternatives, adopting eco-process innovations can help firms reduce this cost. Eco-process innovations provide firms with cost advantage through promoting material productivity, saving energy and reducing waste and the use of contaminating substances (Hojnik and Ruzzier, 2016). Thus, this study recommends the following hypotheses (as depicted in Figure 1):

H6: Eco-product innovation is mediating the relationship between Eco-friendly demand and (SCA).

H7: Eco-process innovation is mediating the relationship between Eco-friendly demand and (SCA).

Figure (1): The theoretical framework



3. Methodology

3.1. Research Design and Measurement

The study adopted a positivist and deductive research approach, which helps researchers gain insights into specific scientific knowledge by testing research hypotheses developed previously. Using a self-administered, analytical questionnaire, the research constructs were measured based on the 5-point Likert scale. The study has hypothesized seven potential relationships between four research constructs, namely, eco-friendly demand, eco-product innovation, eco-process innovation, and sustainable competitive advantage. All these research constructs were measured using measurements adapted from earlier studies. Four items were used to measure eco-friendly demand, which were adapted from (Agan et al., 2013) and (Mady, Abdul Halim, Omar, et al., 2022). Both eco-product and eco-process innovation were measured by four and seven questionnaire items respectively, which were adapted from (Mady, Abdul Halim, and Omar, 2022). Sustainable Competitive Advantage was measured using a five-item measurement adapted from

(Pratono et al., 2019) and (Mady, Abdul Halim, and Omar, 2022). The instrument also included questions relating to the demographic characteristics of the research participants.

3.2. Sample and Data Collection

The research was conducted on manufacturing (SME's) working in Egypt. The targeted research population is manufacturing (SME's) registered at the Industrial Development Authority (IDA) which is authorized to provide manufacturing (SME's) industrial licenses. The study focused on (SME's) that are located in the four biggest industrial zones, Cairo, Giza, Qalyubia, and Alexandria, where there are at least (35%) of overall (SME's) (Abdelkareem and Mady, 2022; Aboelmaged, 2018). Hence, the research population was estimated at (6450) manufacturing (SME's) operating in various industries. The targeted (SME's) were sent a total of (500) soft copies of the questionnaire, which included a cover letter explaining the research purpose. Out of the (500) questionnaires sent, only (197) were returned, resulting in a response rate of (39.4%). As indicated by (Hafaz et al., 2022), the minimum sample size should be estimated based on number of predictors in hypothesized framework and power of analysis. Using the table suggested by (S. B. Green, 1991), with three predictors and a power of (0.80), the sample size should be more than (76). Hence, the sample of (197) respondents is appropriate to test the hypothesized framework.

Table (1) presented below displays the characteristics of the (SME's) and the demographic profile of the managers and owners of the participating (SME's) in this study. Although the sample of (SME's) represents (11) various industries, about (60%) of those (SME's) surveyed operate in only four industries, namely textiles and wearing apparel, food and beverage, material and chemicals, and furniture and wood products. Approximately (60%) of firms were small-sized enterprises, whereas (40%) were medium-sized enterprises. In addition, more than

(70%) of (SME's) have been in business for more than ten years. Most respondents were male (about 90%) and have been experienced for more than ten years (accounted for over (75%) of respondents).

Table (1): sample characteristics

SME's			Respondents		
a) Firm size			**a) Gender**		
Small	118	59.9	Female	20	10.2
Medium	79	40.1	Male	177	89.8
b) Firm age			**b) Work experience (Years)**		
Less than 5	10	5.1	less than 10	21	10.7
5-10	42	21.3	11- 15	23	11.7
11- 15	65	33	16-20	32	16.2
More than 20	80	40.6	More than 20	121	61.4
c) Type of industry			**c) Job position**		
Textiles, wearing apparel	35	17.8	owner	100	50.8
Food & beverage	30	15.2	Manager - CEO	97	49.2
Material & Chemicals	27	13.7	**d) Academic qualification**		
Furniture, wood products	25	12.7	high school	11	5.6
Metal products	18	9.1	Bachelor`s Degree	139	70.6
Auto parts and Machinery	14	7.1	post-graduate	47	23.9
Building materials	13	6.6			
Electronics	10	5.1			
Paper and printing	10	5.1			
Rubber and plastic	9	4.6			
Medical & pharmaceutical	6	3.0			

4. Results of Data Analysis

The present investigation has put forth the hypothesis that a connection exists between eco-friendly demand and (SCA), with the mediating influence of both eco-product and eco-process innovation on this association. Hence, (PLS-SEM) (Partial Least Square-Structural Equation Modeling) was adopted to test the developed research

framework. In addition, (PLS-SEM) is considered the most suitable non-parametric technique that can be used to analyze non-normally distributed data (Henseler et al., 2016). Using WebPower software, it is clearly illustrated that the collected data related to research constructs is not normally distributed data, where multivariate kurtosis (β = 27.751, $p < 0.01$) and multivariate skewness (β = 4.543, $p < 0.01$) (see appendix A). As such, (PLS-SEM) was chosen to test the hypothesized relationships in this study. The data was analyzed using (SMART-PLS 4) based on two main phases which are measurement model assessment, and structural model assessment.

4.1. Measurement model assessment

This section aimed to assess the outer model including the links between the latent variables and their indicators. The study relied on reflective research model in which the research latent variables are conceived of as the causes of their indicators (Shmueli et al., 2019). There are four latent variables, all of which are first-order constructs. First, assessing the research measurement model began with checking the reliability and internal consistency of research constructs using factor loadings of items and composite reliability (J. F. Hair et al., 2014). The measurement items can be reliable when their factor loadings meet the threshold of (0.60) and the composite reliability of research constructs is above (0.70). The results, as shown in Table (2), illustrate that the item loadings are ranging between (0.699) and (0.923) and all the coefficients of composite reliability exceed (0.70), indicating that the reliability and internal consistency of the adopted measurements were ascertained. Second, the study used the Average Variance Extracted (AVE) to confirm the existence of convergent validity for research measurements. As Table (2) shows that all the values of AVE are higher than the cut-off threshold of (0.5), providing evidence that convergent validity of research constructs was acceptable.

Table (2): Convergent validity and reliability assessment

Research construct	Items	Loadings	CR	AVE
Eco-friendly Demand	ED1	0.816	0.850	0.678
	ED2	0.816		
	ED3	0.841		
	ED4	0.820		
Eco-process innovation	EI_Proc1	0.884	0.924	0.812
	EI_Proc2	0.923		
	EI_Proc3	0.910		
	EI_Proc4	0.886		
Eco-product innovation	EI_Prod1	0.769	0.909	0.638
	EI_Prod2	0.886		
	EI_Prod3	0.755		
	EI_Prod4	0.845		
	EI_Prod5	0.798		
	EI_Prod6	0.801		
	EI_Prod7	0.726		
Sustainable Competitive Advantage	SCA1	0.812	0.864	0.596
	SCA2	0.699		
	SCA3	0.725		
	SCA4	0.849		
	SCA5	0.765		

Note: CR – Composite reliability; AVE – Average Variance Extracted

Third, two different criteria were used to assess the discriminant validity, which are Fornell–Larcker method, and Heterotrait-Monotrait ratio (HTMT). Pertaining to the former criterion, the discriminant validity is confirmed when the square root of the AVE is of high value compared to the inter-construct correlations of the same research construct (Henseler et al., 2009). Table (3) illustrates that the outer model adopted in this study had satisfactory discriminant validity. Following the criterion of the (HTMT), the correlation coefficients between constructs estimated by (HTMT) test should be less than (0.90) to demonstrate the acceptable discriminate validity for the research constructs (J. Hair et al., 2017). Table (4) also presents that the measurement model was acceptable in terms of discriminant validity.

Table (3): Discriminant validity (Fornell–Larcker method)

Research constructs	EI_Proc	EI_Prod	ED	SCA
Eco-process innovation	**0.901**			
Eco-product innovation	0.820	**0.799**		
Eco-friendly demand	0.448	0.522	**0.823**	
SCA	0.694	0.652	0.470	**0.772**

Note: Diagonal vablues represent the square root of the AVE values, whereas the other values are correlation coefficients.

Table (4): Discriminant validity (HTMT ratio)

Research constructs	EI_Proc	EI_Prod	ED	SCA
Eco-process innovation				
Eco-product innovation	0.893			
Eco-friendly demand	0.496	0.591		
SCA	0.740	0.698	0.524	

4.2. Structural Model Assessment

The structural model reflects the links between the research constructs hypothesized in the proposal theoretical framework in Figure 1. As suggested by (Shmueli et al., 2019), prior to testing the hypothesized framework, the multicollinearity of the inner model should be checked using the variance inflation factors (VIF). The VIFs of exogenous latent variables, as illustrated in Table (5), were below (5), indicating no multicollinearity issue (J. Hair et al., 2017).

Table (5): Multicollinearity testing using (VIF)

Research Constructs	EI_Proc	EI_Prod	SCA
Eco-process innovation			3.063
Eco-product innovation			3.367
Eco-friendly demand	1.000	1.000	**1.377**

The structural model suggested in this study was tested by checking the significance of paths. As Table (6) and Figure (2) depict, only four of seven hypothesized relationships were supported. The results showed that eco-friendly demand was found to significantly affect both

eco-product innovation (β = 0.522, t = 7.491, p < 0.005) and eco-process innovation (β = 0.448, t = 6.632, p < 0.005), thus supporting both H1 and H2. The results also showed that eco-product innovation had no significant impact on sustainable competitive advantage (β = 0.172, t = 1.155, p > 0.05), whereas eco-process innovation had significant impact on sustainable competitive advantage (β = 0.479, t = 3.433, p < 0.005). Therefore, H3 was unsupported, but H4 was supported. Unexpectedly, the results revealed that sustainable competitive advantage was not affected by eco-friendly demand (β = 0.165, t = 1.788, p > 0.05), so H5 was unsupported. The next section of the results depicted in Table 6 pertains to mediating effects of eco-innovation practices (eco-product innovation and eco-process innovation) in the relationship between eco-friendly demand and Sustainable Competitive Advantage. while eco-product innovation was not shown to mediate the relationship between eco-friendly demand and sustainable competitive advantage (β = 0.090, t = 1.112, p > 0.05), eco-process innovation was a mediator of this relationship (β = 0.214, t = 3.149, p < 0.005). Hence, H6 was not supported, whereas H7 was supported.

Table (6): Path coefficient assessment (direct and indirect effects)

Hypo	Relationship	Beta	SE	t-values	p-values	Decision
H1	ED → EI_Prod	0.522	0.070	7.491	0.000	Supported
H2	ED → EI_Proc	0.448	0.068	6.632	0.000	Supported
H3	EI_Prod → SCA	0.172	0.149	1.155	0.248	Unsupported
H4	EI_Proc → SCA	0.479	0.139	3.433	0.001	Supported
H5	ED → SCA	0.165	0.093	1.788	0.074	Unsupported
H6	ED →EI_Prod → SCA	0.090	0.081	1.112	0.266	Unsupported
H7	ED → EI_Proc → SCA	0.214	0.068	3.149	0.002	Supported

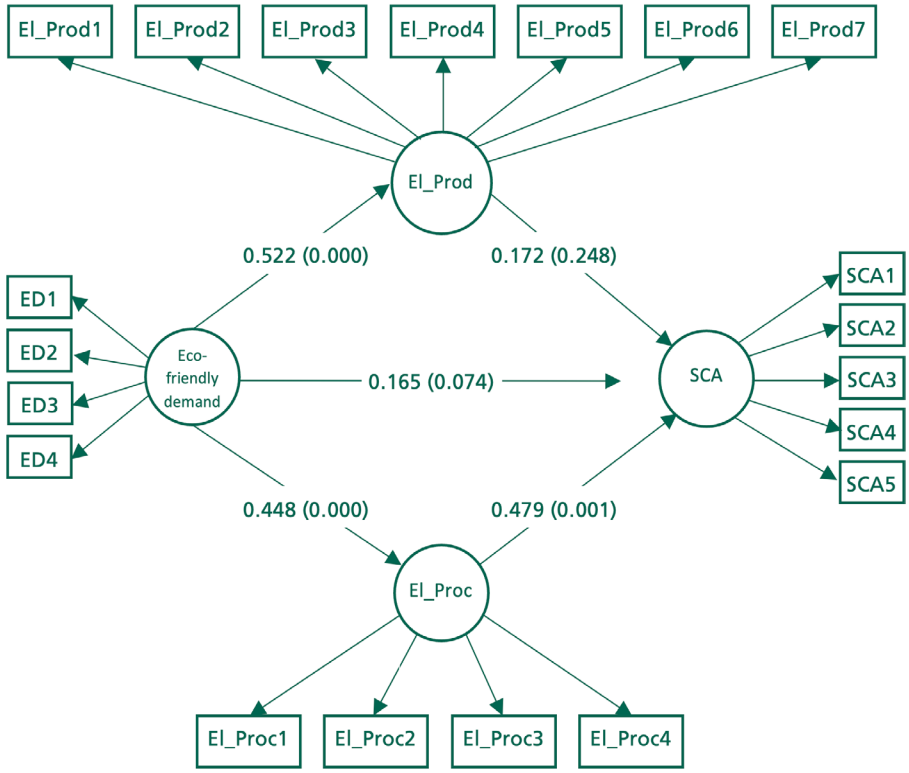
Furthermore, the research model was evaluated in terms of its predictive capacity using the coefficient of determination (R^2) (J. F. Hair et al., 2014). The (R^2) values were estimated for three latent endogenous variables, which are (SCA), eco-process innovation,

and eco-product innovation. Table 7 depicts that (52%) of variance in (SCA) can substantially be attributed to its predictors, including eco-process innovation, eco-product innovation, and eco-friendly demand. Using the criteria suggested by Cohen, (1988), the effect size of eco-process innovation measured by (f^2) in construing the change in (SCA) was medium (0.157) compared to eco-friendly demand and eco-product innovation, which had small (0.042), and weak (0.019) effect size respectively. The results of the R-square values revealed, as depicted in Table (7), eco-friendly demand can construe (25%), and (37.5%) of variance that can be occurred in eco-process innovation and eco-product innovation respectively. Based on the effect size parameters (f^2), eco-friendly demand was shown to have a medium effect size on both eco-process innovation (0.200) and eco-product innovation (0.272). Finally, the (PLS) model used in this study was assessed to ascertain its predictive relevance using the (Q^2 predict) values illustrated in Table (7). All the (Q^2) values for latent endogenous variables were above zero, thus providing evidence that the PLS model was of good predictive relevance.

Table (7): Coefficient determination, f^2, Q^2 assessment

Research Constructs	Indicators	f^2	R^2	Q^2 predict
Sustainable Competitive Advantage	EI_Proc	0.157	0.523	0.199
	EI_Prod	0.019		
	ED	0.042		
Eco-process innovation	ED	0.251	0.200	0.178
Eco-product innovation	ED	0.375	0.272	0.249

Figure (2): structural model assessment



5. Discussion

Seven research hypotheses are proposed in this study. Of these hypotheses, only four were supported. On the question of the relationship between eco-friendly products demand and eco-innovation practices, this study found that both eco-product innovation and eco-process innovation can significantly be driven by eco-friendly products demand. This finding is contrary to that of (Mady, Abdul Halim, and Omar, 2022) who found that eco-friendly products demand has an insignificant impact on all eco-innovation practices. However, this finding is mostly consistent with earlier studies, for example, the work of (Triguero et al., 2013) accentuates that companies that prioritize the market demand for eco-friendly products

are inclined towards investing in eco-product innovation. As suggested by (Li et al., 2019), in order to meet the growing demand for sustainable alternatives from customers, it is now essential for companies to offer eco-friendly products. (Similarly, Hojnik, and Ruzzier, 2016) assumed that firms aligning their business strategies with eco-friendly products demand tend to adopt eco-process innovation. Consequently, an upward trend in market demand for eco-friendly products is enough to spur adopting and developing eco-friendly products and process among Manufacturing (SME's) (Wugan Cai and Li, 2018; Cainelli et al., 2020; Han and Chen, 2021).

The study also found that although sustainable competitive advantage among (SME's) is positively influenced by adoption of eco-process innovation, eco-product innovation has no impact on sustainable competitive advantage, complying with results from (Mady, Abdul Halim, and Omar, 2022). These findings are also in line with the results revealed by (Ch'ng et al., 2021), who concluded that eco-product innovation has shown insignificant impact on economic performance. The rationale behind these findings could be that small and medium enterprise executives prioritize obtaining a cost advantage through eco-process innovation instead of eco-product innovation, which could result in a competitive edge. Specifically, it appears that launching and advancing eco-friendly products may incur higher expenses (Kuo et al., 2022).

Surprisingly, the study found that co-friendly products demand was found to have no impact on sustainable competitive advantage, contradicting with previous studies. For example, (Zameer et al., 2020) concluded that green demand from customers plays a crucial role in helping firms sustain their competitive advantage in the green economy. It is difficult to justify this result, but the impact of eco-friendly product demand on (SCA) may also be dependent on how firms` management

value the relevance of eco-friendly products demand as well as on the extent to which firms strive to tap into such type of customer demand. Accordingly, an internal mechanism must elucidate this connection, and the current study has endeavored to make such a research contribution. Through eco-product innovation and eco-process innovation reflecting the firms` internal orientation toward environmental issues, the study examined the indirect effect of eco-friendly products demand on (SCA).

The study revealed that eco-process innovation plays an important intermediary function in the association between the demand for environmentally conscious products and the achievement of (SCA). Conversely, eco-product innovation does not substantially mediate this relationship. That is, firms adopting eco-process innovations are more likely to transition eco-friendly products demand into sustainable competitive advantage. Customers who prefer and have the willingness to pay more for eco-friendly products also tend to support firms` eco-friendly production processes (Hojnik and Ruzzier, 2016). Those customers are considered a market niche and business opportunity that can be exploited by implementing eco-process innovations. The environmentally sound innovations in production systems and processes provide the firm with a sustainable competitive advantage reflecting in enhancing the efficiency of production processes, reducing energy and material cost, and waste and energy management (Maldonado-Guzmán and Garza-Reyes, 2020).

6. Conclusion and Research Implications

The aim of this study was to examine the impact of the demand for eco-friendly products on sustaining the competitive advantage of (SME's), as well as to investigate the mediating impact of eco-innovative practices on the connection between eco-friendly demand and (SCA). Eco-innovation practices in this study were classified

into eco-product innovation and eco-process innovation. Empirical research of a sample of (197) manufacturing (SME's) in Egypt is used to examine the hypothesized research framework. Using (PLS-SEM), the statistical analysis of structural model has revealed that eco-friendly product demand serves as a catalyst to encourage Manufacturing (SME's) to adopt eco-product and eco-process innovation. The results of data analysis have also shown that manufacturing (SME's) to gain sustainable competitive advantage, especially cost advantage, adopt eco-process innovations, whereas eco-product innovations don't give (SME's) a sustainable competitive advantage. Therefore, the results have revealed that eco-friendly demand can lead to achieve sustainable competitive advantage only when (SME's) adopt eco-process innovation as a low-cost advantage.

6.1. Theoretical implications

The results of this research add significant value to the literature on eco-innovation in three main ways. First, based on Porter`s competitive advantage theory (Porter, 1991; Porter and Van Der Linde, 1995), the study extends the eco-innovation literature by examining the effects of eco-innovation practices on sustaining (SME's)` competitive advantage. This gap is bridged by dividing eco-innovation into two distinctive types of eco-innovation, including eco-product and eco-process innovation and examining how these eco-innovation types affect sustainable competitive advantage. Second, this study contributes to the existing literature by exploring the effect of eco-friendly demand on adopting eco-innovation practices. The literature on eco-innovation has paid much attention to studying the impact of eco-friendly demand as an external pressure exerted on businesses to adopt eco-innovation (Wugan Cai and Li, 2018; Han and Chen, 2021; Mady, Abdul Halim, Omar, et al., 2022). However, this study examines the effects of eco-friendly demand on eco-innovation practices rather than eco-innovation behavior. Finally, the study offers a mediating framework of

eco-innovation practices in the relation to link between eco-friendly demand and sustainable competitive advantage in different context which is manufacturing (SME's) in Egypt as an emerging country.

6.2. Practical implications

Practically, this study provides new insights for (SME's) managers and policymakers concerning the role of eco-friendly products in fostering eco-innovation practices and, in turn, sustaining competitive advantage. The practical implications of the empirical findings of this study suggest that small and medium enterprise executives can secure a competitive edge over their competitors by leveraging the demand for eco-friendly products and adopting eco-innovative practices. Firstly, (SME's) managers should prioritize eco-friendly products demand using environmentally oriented business models. Environmentally oriented business models have emerged to offer and deliver new ways, products, and processes that are in line with sustainability targets (Burch and Di Bella, 2021). Secondly, (SME's) should use and assimilate customer insights to update their production processes. Since (SME's) have lack of access to resources and knowledge that can help them about understanding and assimilating customer-related knowledge, (SME's) should work in partnership with other entities such as research institutions, universities, and other businesses that provide services that are complementary to their target customer groups. Thirdly, the empirical findings assert that eco-innovation practices, especially eco-process innovation, can give (SME's) an opportunity to gain competitive advantage related to low-cost advantage. Therefore, (SME's) should prioritize the eco-innovation practices using adopting environmental management system such as (ISO14001).

From a policymaker's viewpoint, this study offers several implications that can help policymakers enhance the competitive advantage of small and medium enterprises through eco-friendly demand. Firstly, government officials should introduce policy measures

and initiatives aimed at converting customer demand into demand for eco-friendly products. Such endeavors could include subsidies and tax rebates, which could encourage the growth of demand for eco-friendly products. Others can be appeared in support initiatives introducing to research institutes, and R&D institutes to boost eco-innovations among Manufacturing (SME's). Second, governmental entities are considered the most important partner in the environmental partnership with (SME's) so regulatory entities should seek to strengthen the relationship network with (SME's).

6.3. Limitation and Future Research

Future studies can address several unresolved questions that this study did not cover. Firstly, whereas this study focused on the role of eco-friendly demand, it did not examine other external forces such as environmental regulations and competition pressures in achieving sustainable competitive advantage. Therefore, future research can investigate the direct and indirect impact of such factors on (SCA). Secondly, this study did not include eco-organizational innovation as a type of eco-innovation, which is a potential limitation. Substantial research is needed to explore the potential mediating influence of eco-organizational innovation as well as other classifications of eco-innovation practices. As observed by previous research, eco-innovative practices can take various forms, including incremental eco-innovation and radical eco-innovation (Doloreux and Kraft, 2019; Kiefer et al., 2019). Finally, further research can explore the research framework in different contexts such as developed countries and service sector.

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Appendices

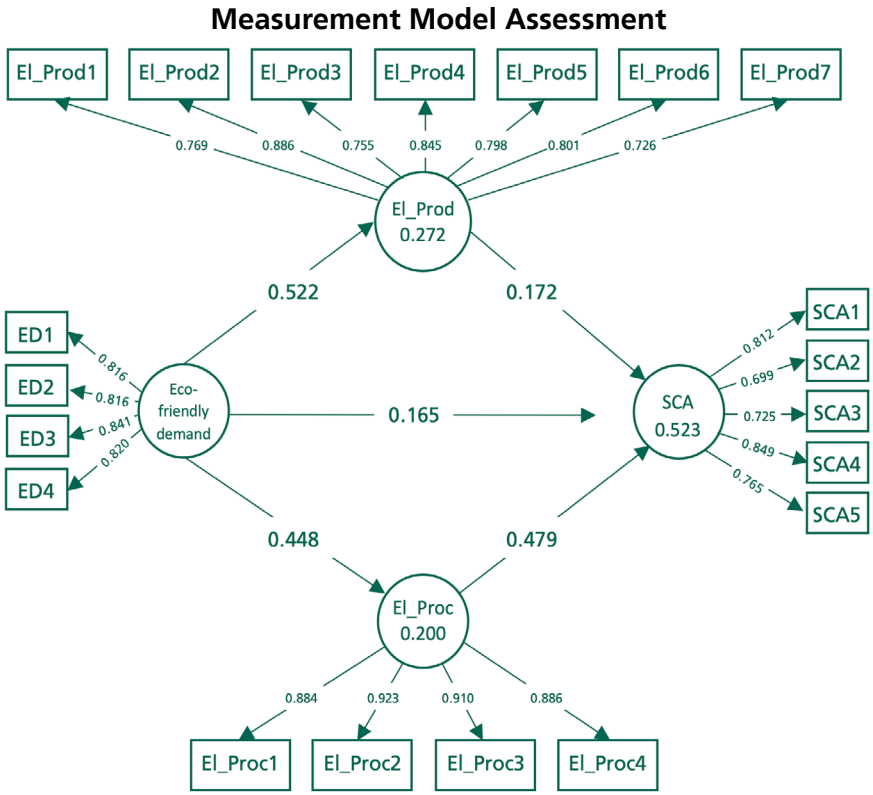
Output of skewness and kurtosis calculation

```
Sample size:  197
Number of variables:  4

Univariate skewness and kurtosis
                        Skewness SE_skew Z_skew Kurtosis SE_kurt Z_kurt
Eco_friendlydemand        -0.063   0.173 -0.366   -0.666   0.345 -1.932
Eco_product_innovation    -0.748   0.173 -4.317    1.332   0.345  3.865
Eco_process_innovation    -1.483   0.173 -8.561    2.285   0.345  6.629
SCA                       -0.898   0.173 -5.187    0.669   0.345  1.942

Mardia's multivariate skewness and kurtosis
                 b           z      p-value
Skewness  4.543248 149.169987 0.0000000000
Kurtosis 27.750585   3.799106 0.0001452188
```

webpower.psychstat.org/models/kurtosis/results.php?url=5896773cc9ff8653d32b470303b89f2c



The questionnaire items

Research construct	Items
Eco-friendly Demand	**ED1**: The environment is an important issue for our valued customers.
	ED2: Our valued customers often put forward environmental issues.
	ED3: Customer green demands stimulate our environmental efforts.
	ED4: Our customers have specific demands about environmental issues.

Eco-process innovation	**EI_Proc1**: Our firm often innovatively updates manufacturing processes to protect against contaminations.
	EI_Proc2: Our firm often innovatively updates manufacturing processes to meet the standards of environmental law.
	EI_Proc3: Our firm often uses innovative technologies in manufacturing processes to save energy.
	EI_Proc4: Our firm often innovatively updates manufacturing equipment in manufacturing processes to save energy.
Eco-product innovation	**EI_Prod1**: Our firm often emphasises developing new eco-products through new technologies to simplify their packaging.
	EI_Prod2: Our firm often emphasises developing new eco-products through new technologies to simplify their construction.
	EI_Prod3: Our firm often emphasises developing new eco-products through new technologies to easily recycle their components.
	EI_Prod4: Our firm often emphasises developing new eco-products through new technologies to easily decompose their materials.
	EI_Prod5: Our firm often emphasises developing new eco-products through new technologies to use natural materials.
	EI_Prod6: Our firm often emphasises developing new eco-products through new technologies to reduce damage from waste as much as possible.
	EI_Prod7: Our firm often emphasises developing new eco-products through new technologies to use as little energy as possible.
Sustainable Competitive Advantage	**SCA1**: Our revenue with new products/services is much better in relation to our competitors'.
	SCA2: Our operation costs, during production or service delivery are inferior to our competitors'.
	SCA3: The profitability with new products/services is better in relation to our competitors'.
	SCA4: Our new products/services incorporate knowledge and concepts of Environmental Sustainability.
	SCA5: Our new products/services are produced and offered in respect of the Entrepreneurial Social Responsibility precepts.

The Disclosure of the Corporate Social Responsibility and the Saudi Banks' Performance

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The Disclosure of the Corporate Social Responsibility and the Saudi Banks' Performance

Abstract

This study aimed to examine the impact of Corporate Social Responsibility (CSR) on the market performance of the ten listed banks in the Saudi Stock Exchange from (2013) to (2022). Ohlson's valuation model, which included actual accounting information, was used to examine the impact of corporate social responsibility disclosure on market performance. The variables of Ohlson's model were the book value per share and earnings per share as control independent variables, plus the disclosure of the Corporate Social Responsibility variable included in the model as the basic dummy independent variable, the market performance as the dependent variable was proxied by price per share and net annual cumulative returns. The study used a mixed approach as it used the quantitative approach to examine the relationship between (CSR) disclosure and the Saudi banks; market performance. In addition, the study used the content analysis approach to provide empirical evidence on the scope and the nature of (CSR) disclosure by Saudi banks. The Statistical results of the regression model indicated that Corporate Social Responsibility disclosure, when included in the model with book value per share and earnings per share, had positive and statistically significant impacts on both the share price and Net Cumulative Annual Return but with a low explanatory power according to the adjusted R squared. The content analysis findings showed that social responsibility disclosures in Saudi banks were mostly non-financial and contained in the body of the Bank's annual reports. The external auditor's reports did not provide a separate assurance of banks' performance in social responsibility or a standalone report on corporate social responsibility. Therefore, there was an expectation Gap. As a result, investors may use a higher discount rate due to the Unaudited (SCR) disclosure. However, the results showed that the disclosure of (CSR) included many areas of social responsibility, such as education, healthcare, products, employees, and the environment; as a result, the average rate of disclosure of the listed Saudi banks was increasing annually, and some banks have formed a committee to monitor the governance of social responsibility initiatives. Moreover, recent years have witnessed increased disclosure of corporate social responsibility by all banks due to the guidelines issued by the Saudi Central Bank titled "The basic principles of governance in financial institutions" to improve society's way of life. The results of this study have implications for the policies and strategies of banks, corporate governance policies, and internal and external audits.

Keywords: Return on Assets, Expectation GAP, Return on Equity, Share Price, External Auditor

الإفصاح عن المسؤولية الاجتماعية للشركات وأداء البنوك السعودية

الخلاصة

تهدف هذه الدراسة إلى تحديد تأثير الإفصاح عن المسؤولية الاجتماعية على أداء السوق للبنوك العشرة المدرجة في سوق المال السعودي للفترة من (2013) حتى (2022)، وقد استخدمت الدراسة نموذج أولسن الذي يتضمن المعلومات المحاسبية الفعلية لدراسة أثر الإفصاح عن أداء البنوك في مجال المسؤولية الاجتماعية على أداء مؤشرات السوق للبنوك، حيث تضمن النموذج متغيرات القيمة الدفترية للسهم وربحية السهم كمتغيرات إضافية مستقلة بالإضافة الى الإفصاح عن المسؤولية الاجتماعية كمتغير أساسي مستقل، كما تضمن سعر السهم والعائد على السهم كمتغيرات تابعة. هذا، وقد استخدمت الدراسة منهج التحليل الكمي لدراسة العلاقة بين مؤشر الإفصاح عن المسؤولية الاجتماعية وأداء البنوك، ومن ثَمَّ استخدمت منهج تحليل المحتوى لتقديم دليل عملي على حالة البنوك السعودية.

أشارت نتائج التحليل الإحصائي إلى أن مؤشر الإفصاح عن المسؤولية الاجتماعية كان له تأثير ذو دلالة إحصائية مقرونًا بالمتغيرات الإضافية في نموذج الانحدار لكن بقدرة تفسيرية ضعيفة، كما أظهرت نتائج تحليل المحتوى أن الإفصاح عن المسؤولية الاجتماعية للبنوك كان في صورة غير مالية في متن التقارير المالية للبنوك وأن تقارير المُراجع الخارجي لم تعطِ رأيا عن الأداء الاجتماعي سواء في تقرير المراجعة أو تقرير منفصل، مما يشير إلى وجود فجوة توقعات بين محتوى الإفصاح الفعلي وجَودته وموثوقيته وبين ما يتوقع المجتمع، وقد يترتب على ذلك قيام المستثمرين باستخدام مُعامل خصم مرتفع عند تقييم البنوك.

كما أشارت نتائج تحليل المحتوى إلى ان الإفصاح الوصفي كان شاملا للعديد من مجالات المسؤولية الاجتماعية؛ حيث تناول دورَ البنوك في دعم التعليم والرعاية الصحية ومنتجات البنوك والموظفين والعملاء، كما شهدت السنوات الأخيرة تزايدًا في حجم الإفصاح استجابةً لتوجيهات البنك المركزي السعودي المتعلقة بذلك. هذا، ونتوقع أن يكون لنتائج هذه الدراسة انعكاساتٌ إيجابية على استراتيجيات البنوك وسياسات الحوكمة ودورٌ فعال لمُراجع الحسابات الخارجي في الإفصاح عن أداء المسؤولية الاجتماعية.

الكلمات المفتاحية: العائد على الأصول، فجوة التوقعات، العائد على حقوق الملكية، سعر السهم، المراجع الخارجي.

1. Introduction

Previous studies indicated that the interpretation of the relationship between (CSR) disclosure and the performance of organizations takes place in the framework of three theories: legitimacy theory, shareholder theory, and corporate branding theory. (Fernando & Lawry, 2014) noted that these theories explain why organizations engage in or do not engage in social responsibility activities. (Deegan, 2006) explained that legitimacy theory emphasizes that organizations constantly try to carry out their activities by the laws and rules defined by the society in which they operate and that the organizations are part of society. As a result, they must show their concern for society. (Deegan & Sam, 2009) noted that organizations seek legitimacy from society and serve as a social contract between the organization and society. They pointed out that legitimacy is something that society gives organizations or something that an organization expects to get from the society in which they operate. Thus, the theory focused on the relationship between the organization and society. As stated by (Tilling, 2004), there are two perspectives to the legitimacy theory: A broader perspective that seeks to gain legitimacy from society, a narrow perspective that seeks to legitimize organizations by disclosing good performance and community development projects, while the legitimacy is negatively affected by some adverse events about the organization published in the media (Gray et al., 2009).

The stakeholder theory developed by (Friedman, 1970) is linked to the legitimacy theory, and both are part of the political-economic theory because the influence of the broad society can affect the allocation of financial resources. He stated that organizations use environmental performance reports and the disclosure of social responsibility as a tool to legitimize their activities in front of the community, and organizations can improve the value of the stakeholders if they are involved in (CSR) activities. According to (Mita et al., 2018), the

corporate branding theory assumes that the organization creates and maintains a positive reputation and image by sending signals to the stakeholders. The reputation positively impacts the existing products, the new products, and the employee confidence. As noted (Galant & Cadez, 2017), measuring (CSR) performance is not easy because the concept of (CSR) is multi-faceted. Therefore, there were many approaches to measuring the performance of (CSR) in previous studies. The Reputation metrics for (CSR) disclosures were the most widely used and available by the specialized external rating agencies. Major indexes included The Dow Jones Sustainability Index (Škare & Golja, 2012), the Respect Index for Polish companies (Lech, 2013), and The MSCI KLD Index (Coombs & Gilley, 2005).

Another metric for (CSR) disclosure is the Content analysis methodology, which obtains information on (CSR) to derive an index for (CSR) disclosure subject to statistical analysis. (Yang, et al., 2009) developed an index of five (CSR) dimensions. Another methodology is the survey approach, which collects primary data in the absence of data from the financial reports and the (CSR) disclosure indexes by the external rating agencies.

(Scholten, 2008) provided an overview of the concept and practices of corporate social responsibility in the banking industry and the financial motivations and implications of corporate social responsibility engagement for banks. The author defined corporate social responsibility as the voluntary incorporation of social, economic, and environmental issues into firms' decision-making, culture, strategy, and operations to create value for their internal and external stakeholders. In addition, the author discussed the various drivers that motivate banks to engage in corporate social responsibility, such as strategic, altruistic, or greenwashing motives. Strategically, banks used corporate social responsibility to acquire competitive advantage, enhance reputation, attract consumers and investors, and reduce risks. Altruistic institutions

use corporate social responsibility to fulfill their moral obligations, contribute to social welfare, and align with their values and mission. Greenwashing banks used corporate social responsibility to manipulate their image, avoid regulation, and conceal their negative impacts. (Scholten, 2008) investigated the relationship between corporate social responsibility and financial performance in the finance industry based on various theoretical perspectives and empirical studies.

According to (Brooks & Oikonomou, 2018), Corporations should pursue their economic goals and consider their social and environmental influences. Corporate social responsibility disclosure communicates the social and ecological effects of organizations' economic actions to specific interest groups within and outside society. In addition, Corporate Social Responsibility disclosure includes information regarding a company's commitment to environmental concerns, community relations, employee and consumer issues, and other topics (Gray et al., 1988; Farouche & Perks, 2010).

One of the primary reasons for Corporate Social Responsibility disclosure is to influence market perception and the business valuation. Previous research has examined the relationship between Corporate Social Responsibility disclosure and market performance in various contexts and industries. Some studies have found a negative relationship between Corporate Social Responsibility disclosure and market performance, indicating that Corporate Social Responsibility disclosure signals a higher quality and lower risk to investors. For instance, (Pham & Tran, 2020) found that Corporate Social Responsibility disclosure positively impacted the firm's reputation, which contributed significantly to the company's financial performance. In addition, the paper demonstrated that (CEO) integrity significantly amplified the positive effect of corporate social responsibility disclosure on a firm's reputation. Other studies have discovered a negative or insignificant correlation between Corporate Social Responsibility

disclosure and market performance, indicating that Corporate Social Responsibility disclosure reflected managerial opportunism or excessive investment in social activities. For instance, the findings of (Buallay et al., 2020) suggest that the Corporate Social Responsibility disclosure negatively affected the operational and market performance and had no impact on the financial performance.

This study aims to provide empirical evidence on whether investors positively value corporate social responsibility disclosure by banks in Saudi Arabia. The Saudi economy is one of the largest and fastest-growing economies in the Middle East and North Africa. Saudi Arabia's banking sector accounts for approximately (80%) of the financial system's total assets. In addition, Saudi Arabia is undergoing a significant economic and social transformation through its Vision (2030), which seeks to diversify its economy away from its reliance on oil, increase private sector participation, and improve social welfare. As part of this strategy, Saudi Arabia has adopted several initiatives and regulations to promote Corporate Social Responsibility among businesses, such as issuing the Corporate Governance Regulations in (2017), launching the Saudi Stock Exchange's ESG Reporting Guidance in (2019), and adopting the UN Global Compact in (2020) (Syed et al., 2021). The Saudi banks confronted several social and environmental challenges and responsibilities, including financial inclusion, consumer protection, ethical lending, anti-money laundering, climate change mitigation, and community development. Consequently, banks' Corporate Social Responsibility disclosure can substantially impact their market performance and stakeholder relationships.

1.1 Study's Problem

Studies in the disclosure of social responsibility faced challenges in measuring the indexes of social responsibility disclosure and measuring the performance of organizations. This difficulty increases in developing countries such as Saudi Arabia. Developing objective indexes for (CSR)

disclosure and choosing study variables is difficult. After surveying the literature review, the study uses new indicators and methodology. Therefore, the study tries to fill in this gap. In addition, this study is different from the previous studies in terms of the methodology as it used mixed methods as it has used the quantitative approach to test the relationship between the disclosure of (CSR) and market performance to test the value relevance of the disclosure of (CSR). The study also used the content analysis approach to determine the type, depth, and methods of disclosure and to reveal the expectations gap between what has been disclosed by banks and what should have been disclosed. In addition, the study used the dummy variable as a proxy for the disclosure of (CSR), which has yet to be used in previous studies. In addition, the study has considered the value relevance dimension from shareholders' perspective, as the primary goal of the financial accounting system is to provide general-purpose financial reporting that should include relevant information. The study gains its importance because banks are the main engine of economic growth and stability. In addition, the study found inconsistent evidence on the direction and magnitude of the relationship, depending on the measures of the corporate social responsibility and financial performance used, the time horizon considered, the control variables and interacting variables included in the models, and the context of analysis.

1.2 Study's Objectives

The study aims to determine the value relevance of (CSR) disclosure and the type, depth, and methods of (CSR) disclosures. The study has the following Sub objectives:

1. Measuring the relationship between the (CSR) disclosure index and the market performance indicators.
2. Determining the value relevance from the shareholder's perspective and revealing whether they realize the importance of (CSR) disclosure when making decisions.

3. Determining the (CSR) disclosure's size, type, and method to reveal the expectations gap between what banks should have disclosed and the actual disclosure.

2. Literature Review and Hypotheses Development

The study divided this section into two sub-sections. In the first section, the study dealt with the previous studies in detail, each separately, to determine the methodologies, variables, results, and the countries of the studies. .The second sub-section included the rationale for developing the study hypotheses.

(Prayanthi and Budiarso, 2022) investigated the relationship between (CSR) disclosure and the performance of (36) companies registered on the Indonesian Stock Exchange from (2019) to (2021). The study used the (CSR) index based on the international reporting index in the companies' financial reports using the indicators of the global reporting initiative. The study's results indicated a positive, statistically significant impact on the Return on assets, equity, and Tobin's indicators.

(Singh and Chakraborty, 2021) investigated the relationship between (CSR) disclosure and bank performance using a content analysis approach based on banks' financial reports in India. The authors used a multi-faceted disclosure index based on the shareholder theory, as the index included several stakeholders such as employees, customers, society, the environment, and others. The results indicated that the (CSR) disclosure positively impacted the Return on assets, with no statistically significant impact on the share price.

(Syed, et al., 2021) studied the influence of social performance on the financial performance of publicly traded companies in Saudi Arabia using content analysis and a questionnaire survey. The content analysis entailed collecting data on social performance indicators from the (2019) annual reports of (100) companies in the Saudi capital

market. The questionnaire survey method entailed the distribution of a questionnaire to (1,000) managers and employees of publicly traded companies to measure their perceptions of social performance and its impact on financial performance. In addition, the article concluded with various findings, such as the low level of social performance disclosure among Saudi-listed companies, with only (28%) reporting on social performance indicators in their annual reports. The most frequently reported indicators were community engagement, environmental protection, and human rights, while the least commonly reported were anti-corruption, product responsibility, and labor practices. In addition, there was a positive and statistically significant relationship between social performance and financial performance, as measured by Return on assets (ROA), return on equity (ROE), earnings per share (EPS), and market value added (MVA). The results indicated that companies that performed well on social performance indicators tend to have greater profitability and value than those that performed poorly. In addition, their study revealed that the influence of social performance on financial performance varied by industry sector. Banking, petrochemicals, and telecommunications exhibited the most vital relationship between social and economic performance, whereas cement, retail, and insurance exhibited the weakest relationship.

(Thuy et al., 2021) studied the relationship between corporate social responsibility disclosure and the financial performance of Vietnamese companies. The study explained that agency theory had supported financial performance in some cases and caused a negative impact in other cases. As a result, they developed hypotheses to test the effect of corporate social responsibility disclosure and the financial performance of a sample of (225) non-financial companies from (2014) to (2018). The results showed that the Corporate Social Responsibility disclosure had a positive impact on the economic performance, and there was a positive correlation between Corporate Social Responsibility disclosure and the financial performance.

(Miralles et al, 2021) examined the impact of the assured Corporate Social Responsibility on the stock market price of the listed companies on Ibex-(35). The authors stressed the importance of an assured Corporate Social Responsibility report for the shareholders and society. The study was conducted on 18 listed companies in the Spanish stock market from (2011) to (2019). The study used content analysis to ensure the Corporate Social Responsibility report and the impact on the stock price. Results showed no effect of corporate social responsibility disclosure on the stock market price due to the lack of details and limitation of the external auditor's corporate social responsibility assurance report.

(Buallay et al., 2020) examined the relationship between Corporate Social Responsibility disclosure and the firm performance in six Mediterranean nations (Egypt et al.) from the perspective of stakeholders using the Global Reporting Initiative (GRI). The study sample consisted of (203) firms listed on the stock exchanges of these countries from (2008) to (2017). The study assessed the Corporate Social Responsibility disclosure index, the firm performance using three indicators, (ROA), (ROE), and (TQ), and the stakeholder pressure using four surrogates: environmental risk, social risk, media exposure, and institutional ownership. Results showed that corporate social responsibility disclosure significantly and deleteriously impacted firm performance in Mediterranean nations. That is, firms that disclose more information about their Corporate Social Responsibility activities tend to have lower profitability and market value than those with fewer disclosures. In addition, the stakeholder pressure reduced the negative impact of the Corporate Social Responsibility disclosures on the firm performance; that is, when the stakeholder pressure was high, the impact of Corporate Social Responsibility disclosure on the firm performance was less harmful than when the stakeholder pressure was low.

(Pham & Tran, 2020) investigated the influence of corporate reputation and (CEO) integrity on the connection between Corporate Social Responsibility disclosure and firm performance. From (2005) to (2011), Fortune magazine ranked (833) companies from (31) countries as the World's Most Admired Corporations. The authors evaluated corporate social responsibility disclosure using the quantity and quality of the information reported on social and environmental issues. The firm performance is based on three indicators: Tobin's Q, (ROA), and (ROE); the corporate reputation is based on the Fortune reputation score, and the (CEO) integrity is based on three proxies: (CEO) tenure, (CEO) duality, and (CEO) compensation. In addition, the study yielded several findings, as the disclosure of Corporate Social Responsibility had a positive and substantial impact on the corporate reputation, which in turn had a positive and substantial impact on the firm performance. This indicated that firms that disclosed more and better information about their Corporate Social Responsibility activities tend to have a higher reputation and market value than those with less information or information of lower quality. Moreover, the (CEO)'s integrity moderated the effect of corporate social responsibility disclosure on corporate reputation. This indicated that the impact of Corporate Social Responsibility disclosure on the corporate reputation was more significant when the (CEO) possessed a higher level of integrity than when the (CEO) possessed a lower level of integrity. This indicated that the (CEO)'s integrity enhanced the credibility and trustworthiness of the Corporate Social Responsibility disclosure and demonstrated the alignment of the Corporate Social Responsibility values with the organization's strategy and culture. In addition, the results were consistent across various measures of firm performance and (CEO) honesty.

(Harymawan, et al., 2020) Studied (84) companies from Indonesia and Malaysia from (2010) to (2016). The study used the content analysis of the audited sustainability report. Results showed that the more

information on sustainability reports assured by the external auditors disclosed to the public, the greater the value of the companies using the Tobin Q metric. (Cho & Park, 2019) examined the effect of the audited (SCR) disclosure on financial performance. Results indicated that firms that had their Corporate Social Responsibility audited by external auditors had higher financial performance than those that did not.

(Kim et al., 2019) investigated the effect of the assured social responsibility reports as an interaction variable on the relationship between the social responsibility performance using the external evaluation index from the external rating agencies and the financial performance using the organization's market value divided by the net book value of the assets(Tobin, Q). The results indicated that organizations that had reports assured by the external auditor improved their financial performance compared to those that did not have such assurance. (Oware & Thathaiah, 2019) studied the relationship between corporate social responsibility reporting and investments in corporate social responsibility, as well as the assurance of reports by external auditors and the organization's performance. The study sample consisted of 30 companies in India from (2010) to (2017). The financial performance is proxied by (ROE) and (ROA). On the other hand, the independent variables were the Corporate Social Responsibility investments as a proxy for Corporate Social Responsibility. The results showed a positive relationship between Corporate Social Responsibility and financial performance.

(Galdeano et al., 2019) investigated the functions of Corporate Social Responsibility and organizational engagement, focusing on the Bahrain Banks. The purpose of the paper was to examine the influence of Corporate Social Responsibility on financial performance, the impact of organizational engagement on financial performance, and the moderating effect of organizational engagement on the relationship

between Corporate Social Responsibility and financial performance. In addition, the study employed a quantitative methodology and gathered information from (300) managerial-level employees at seven retail banks in Bahrain. The study analyzed the data using structural equation modeling and examined the hypotheses. Results showed that Corporate Social Responsibility had a significant and positive impact on financial performance as banks engaged in more social and environmental activities had better financial results; organizational engagement had a significant and positive impact on financial performance as banks with more engaged employees had better financial outcomes. The study concluded that corporate social responsibility and organizational engagement were significant factors in enhancing the financial performance of the Bahraini banking sector.

(Du & Wu, 2019) focused on the impact of the assurance of Corporate Social Responsibility on the report's credibility and the firm's value in Taiwan's Companies. The study sample included (763) firms listed on the Taiwan Stock Exchange. Results indicated that Taiwan lacked a legal rule for strict investor protection; however, the assurance of corporate social responsibility could help investors understand the level of the organization.

(Platonova et al., 2016) investigated the relationship between corporate social responsibility disclosure and the financial performance of the Islamic banks in the Gulf Cooperation Council (GCC) region from (2000) to (2014). The Authors defined corporate social responsibility disclosure as the voluntary sharing with stakeholders and the public of information about a bank's social, economic, and environmental policies, activities, and their impacts. The study created the corporate social responsibility disclosure index based on seven dimensions. Furthermore, the authors evaluated the association between the corporate social responsibility disclosure and the financial success proxied by Return on assets (ROA), return on equity (ROE), and (Tobin's

Q). Results indicated a strong and positive correlation between the Islamic banks' financial success and their disclosure of their corporate social responsibility. Additionally, there was a link between the corporate social responsibility disclosure and the future financial performance. (Yusuf et al., 2013) examined the impact of the (CSR) disclosure structure on the financial performance of the (30) companies registered on the Malaysian Stock Exchange from (2002) to (2011). The study used content analysis to determine the disclosure structure regarding depth, breadth, and concentration. The results indicated a statistically significant relationship between the (CSR) disclosure structure and the financial performance of the banks in terms of Return on assets, equity, and sales.

(Usman & Arman, 2015) examined the relationship between the assured (CSR) disclosure report and the relationship between the (CSR) performance and the financial performance of the companies registered on the Nigerian Stock Exchange. The study used the content analysis approach to derive an index of disclosure based on information taken from the companies' financial reports. The results of the study indicated that the (CSR) disclosure of products, the social performance of the products, and the employees led to an improvement in the financial performance of the companies in terms of the Return on assets and the share price.

In the second section, the author gave an overview of the Summary of the Performance Measures and (CSR) Indexes as follows:

1. The Literature review indicated that the following studies used the Return on assets as the dependent variable. (Syed et al, 2021; Nguyen et al., 2022; Thuy et al., 2021; Buallay et al., 2020. Pham & Tran, 2020; Were & Mallikarjunappa, 2019; Oware & Thathaiah, 2019; Platonova et al., 2016, Yusuf et al., 2013. Usman & Amran, 2015; Singh & Chakraborty, 2021; Prayanthi & Budiarso, 2022;

El Mo said & Boutti, 2012; Tunio, et al., 2021; Syed et al., 2021; Buallay et al., 2020; Pham & Tran, 2020; Oware & Thathaiah, 2019; Platonova et al., 2016; Yusuf et al., 2013; Prayanthi & Budiarso, 2022; Tunio et al.,2021).

2. The literature review indicated that the following studies used return on equity as the dependent variable and Profit Margin as the dependent variable. (Yusuf et al., 2013).
3. The Literature review indicated that the following studies used the share price as the dependent variable (Quirts et al., 2021; Usman & Amran, 2015; Singh & Chakraborty, 2021; Hazaima et al., 2018
4. The Literature review also indicated that the following studies used the market value as the dependent variable (Syed et al., 2021).
5. In addition, The Literature review indicated that the following studies used Tobin's Q as the dependent variable. (Buallayet al., 2020; Pham & Tran, 2020; Harymawan et al., 2020; Kim et al., 2019; Platonova et al., 2016; Prayanthi & Budiarso, 2022).
6. Based on the Literature review, the following are the (CSR) indexes used in the previous studies:(Syed et al., 2021) used the questionnaire approach, whereas the Content Analysis used by (Thuy et al., 2021; Harymawan et al., 2020; Yusuf et al., 2013; Singh & Chakraborty, 2021) and The following studies used External Rating Indexes (Buallay et al., 2020; Usman & Amran, 2015).

2.1 Hypotheses Development

Based on the shareholder theory, the legitimacy theory, the corporate theory, and the methodologies used in the literature review above to measure (CSR) disclosure and financial performance. In addition, based on the study's objectives to calculate shareholders' reaction toward (CSR) disclosure, the study developed the following main hypothesis: (CSR) disclosure has a positive and statistically significant impact on market-based indicators of banks registered in the Saudi capital market.

3. Methodology and Empirical Results

3.1 Sample size and data collection

The study was conducted on all ten banks listed on the Saudi Stock Exchange. Secondary data on independent variables was collected from the banks' annual financial reports, and data on dependent variables were collected from the Saudi Stock Exchange's website.

3.2 Research Method

The study used a mixed approach to achieve its objectives. It used the quantitative approach, descriptive statistics, correlation analysis, and least-squared regression models to test the study hypotheses. In addition, it used content analysis to investigate the type and structure of the banks' disclosures regarding corporate social responsibility.

3.3 Variables definitions and measurements

Proxy	Variable Name	Measurement
X1	Book Value Per Share	Dividing the equity value by the number of the outstanding shares weighted average
X2	Earnings Per Share	Dividing net income minus dividends of preferred shares by the number of outstanding shares
X3	Corporate Social Responsibility Disclosure	Dummy variable as banks and years with the disclosure take (1) and banks and years without disclosure take (0)
Y1	Price Per Share	Share price after 3 months from the end of the financial year (March 31) to allow investors to absorb the information from the audited financial statements that have taken time to be available to the investors
Y2	Net Annual Returns On Shares,	Return of day t minus return of day t-1 divided by return of day t-1

3.4 Hypotheses Development

The study developed the following sub-hypotheses after adding the control variables:

1. H0: There is no significant impact of the book value per share on the share price for banks listed the Saudi capital market.
2. H0: There is no significant impact of the earning per share on the share price for banks listed in the Saudi capital market.
3. H0: There is no significant impact of the Corporate Social Responsibility disclosure on the share price for banks listed in the Saudi capital market.
4. H0: There is no significant impact of the book value per share, earning per share, and Corporate Social Responsibility disclosure on the share price for banks listed the Saudi capital market
5. H0: There is no significant impact of the book value per share on the net annual cumulative return for banks listed the Saudi capital market.
6. H0: There is no significant impacts of the earning per share on the net annual cumulative return for banks listed in Saudi Exchange.
7. H0: There is no significant impact of the Corporate Social Responsibility disclosure on the net cumulative annual return for banks listed the Saudi capital market.
8. H0: There is no significant impact of the book value per share, earning per share, and Corporate Social Responsibility disclosure on the net cumulative annual return for banks listed the Saudi capital market.

3.5 Model Specifications and the Statistical Analysis

Ohlson's model (1995) contained both the book value per share and the earnings per share as independent variables that predict the market value of shares. That model promoted the value relevance studies by using the actual earnings per share and the book value per share as the drivers for the share prices. Many researchers widely used the Ohlson model's variables as the control variables to study the investors' reactions to any accounting information.

$$P_{it} = \alpha + BV_{it} + E_{it} + \varepsilon_{it}$$

where P_{it}= the share price of the bank *i* after three months of the fiscal year–end *t*.

α = intercept.

BV_{it} = the book value per share for the bank *i* at the end of year *t.*

E_{it} = the earnings per share for the bank *i* during the year *t.*

ε_{it} = the error term.

The study used the following models to test the research hypotheses:

$$Y_1=\alpha+\beta_{x1}+\varepsilon \quad (1)$$

$$Y_1=\alpha+\beta_{x2}+\varepsilon \quad (2)$$

$$Y_1=\alpha+\beta_{x3}+\varepsilon \quad (3)$$

$$Y_1=\alpha+\beta_{x1}+\beta_{x2}+\beta_{x3}+\varepsilon \quad (4)$$

$$Y_2=\alpha+\beta_{x1}+\varepsilon \quad (5)$$

$$Y_2=\alpha+\beta_{x2}+\varepsilon \quad (6)$$

$$Y_2=\alpha+\beta_{x3}+\varepsilon \quad (7)$$

$$Y_2=\alpha+\beta_{x1}+\beta_{x2}+\beta_{x3}+\varepsilon \quad (8)$$

3.6 Hypotheses Testing and Analysis of Results

Table (1) indicated that the share price standard deviation was (15.43388384), which was very high due to the large difference between the minimum and maximum price. Share returns showed negative annual returns of (-0.481430804) because the Saudi stock market's performance in (2014), (2015), and (2022) was negative, recording (-0.02), (-0.17), and (-0.07) respectively.

Table (1): Descriptive Analysis

	Book Value Per Share	Earnings Per Share	Share Price	Returns On Shares
Mean	20.20082958	2.3085	25.8935	0.113963548
Standard Deviation	6.864751508	1.268200328	15.43388384	0.240976414
Minimum	10.49883049	-2.01	2.09	-0.481430804
Maximum	37.50576738	6.34	100.39	1.073093535

Source: https://www.mubasher.info/markets/TDWL

Table (2) explains the correlation between the dependent and independent variables as the results indicated the correlation between the Book Value per share and the Earnings per Share was positive, with a coefficient of (0.615176), indicating a moderate correlation. Consequently, by executing a VIF (variance inflation factor) to test the Multicollinearity assessment using the following formula:

$$VIF = 1/(1-R^2)$$

Using the preceding equation, the value of the VIF was (2.60). There was a moderate correlation since the Multicollinearity result was between (1) and (5). Consequently, it was permissible and did not need to be solved. See table (2).

Table (2): the Correlation Matrix

	Share Price On March The Year After	Net Cumulative Annual Returns	Book Value	Earnings per share
Share Price On March The Year After	1			
Net Cumulative Annual Returns	0.28632955	1		
Book Value	0.53159372	-0.081358708	1	
Earnings Per Share	0.468722952	0.036792989	0.615176	1

Source: output of SPSS

Table (3) shows that model (1) was statistically significant, as the F test and the Adjusted R Square values were (38.60285933) and

(0.275271393), respectively. The book value per share was statistically significant, as the (P-value) was (0.00000001). Therefore, the first hypothesis was rejected, as the book value per share is of value relevance and explained (0.275271393) of the changes in share price.

Table (3): the Statistical Results of Model (1)

Multiple R	0.53159372			
R^2	0.282591884			
Adjusted R^2	0.275271393			
Standard Error	13.13901867			
F-Test	38.60285933			
Significance	0.00000001			
	Coefficients	**Standard Error**	**t Stat**	**P-value**
Intercept	1.750043103	2.856949	4.454083	2.24E-05
Book Value (x1)	1.195171555	1.085937	5.252896	0.00000087

Source: output of SPSS. Share price is independent variable

Table (4) shows that model (2) was statistically significant, as the F test and the Adjusted R Square values were (27.59291) and (0.211738974), respectively. The earnings per share were statistically significant, as the (P-value) is (0.00000087). Therefore, the second hypothesis was rejected, as the earnings per share were of value relevance and explained (0.211738974) of the changes in the share price.

Table (4): the Statistical Results of Model (2)

Multiple R	0.468722952			
R^2	0.219701206			
Adjusted R^2	0.211738974			
Standard Error	13.70282952			
F-Test	27.59291			
Significance	0.00000087			
	Coefficients	**Standard Error**	**T test**	**P-value**
Intercept	12.72508618	2.856949	4.454083	2.24E-05
Earnings per share(x2)	5.704316144	1.085937	5.252896	0.00000087

Source: output of SPSS. The Share price was the independent variable.

According to Table (5), model (3) is statistically insignificant, as the F test and the Adjusted R Square values were (1.975945) and (0.009761793), respectively. Corporate social responsibility disclosure was also statistically insignificant, with a (P-value) of (0.162981). Therefore, the third hypothesis was accepted, as Corporate Social Responsibility disclosure alone is not of value relevance.

Table (5): the Statistical Results of Model (3)

Multiple R		0.140585204		
R^2		0.0197642		
Adjusted R^2		0.009761793		
Standard Error		15.3583679		
F-Test		1.975945		
Significance		0.162980799		
	Coefficients	**Standard Error**	**T Test**	**P-value**
Intercept	23.90092593	2.090009	11.4358	9.6E-20
Corporate Social Responsibility disclosure(x3)	4.33168277	3.08155	1.405683	0.162981

Source: output of SPSS. The Share price was the independent variable.

Table (6) shows that model (4) was statistically significant as the F test, and the Adjusted R Square values were (18.66966146) and (0.348722706), respectively. Therefore, all three independent variables were statistically significant as all variables' (P-values) were less than (0.05.) Thus, the fourth hypothesis was rejected because all three independent variables of value relevance explained (0.348722706) of changes in share price. It is worth mentioning that when the Corporate Social Responsibility disclosure was incorporated into the model, the value relevance of the earnings per share and the book value per share increased.

Table (6): The Statistical Results of Model (4)

Multiple R		0.607007728		
R^2		0.368458382		
Adjusted R^2		0.348722706		
Standard Error		12.45541482		
F-Test		18.66966146		
Significance		0.00000		
	Coefficients	**Standard Error**	**T Test**	**P-value**
Intercept	-1.827738985	4.081988493	-0.447757015	0.655337352
Book Value(x1)	0.692911012	0.240400025	2.882325041	0.004871061
Earnings per share(x2)	4.386055738	1.373522454	3.193290161	0.00190266
Corporate Social Responsibility disclosure(x3)	7.823156604	2.741675192	2.853422107	0.005298059

Source: output of SPSS. The Share price was the independent variable.

According to table (7), models (7, 8, and 9) and models (5, 6, and 7) were statistically insignificant as the (P-values) were above (0.05). Therefore, the Hypotheses (4, 5, and 6) were accepted.

Table (7): the Statistical Results of Model (5)

Multiple R		0.081358708		
R^2		0.006619239		
Adjusted R^2		-0.003517299		
Standard Error		0.241399835		
F-Test		0.653007878		
Significance		0.420996576		
	Coefficients	**Standard Error**	**T Test**	**P-value**
Intercept	0.171656527	0.075365044	2.277667694	0.024919006
Book Value(x1)	-0.002855971	0.003534228	-0.808089029	0.420996576

Source: output of SPSS. Net annual returns on shares were the independent variable.

Table (8): the Regression Results of Model (6)

Multiple R		0.036792989		
R^2		0.001353724		
Adjusted R^2		-0.008836544		
Standard Error		0.242038771		
F-Test		0.716285791		
Significance		0.420996576		
	Coefficients	**Standard Error**	**T Test**	**P-value**
Intercept	0.097824362	0.05046347	1.938518319	0.055437146
Earnings per share(x2)	0.0069912	0.019181364	0.364478793	0.716285791

Source: output of SPSS. Net annual returns on shares was the independent variable.

Table (9): The Statistical Results of Model (7)

Multiple R		0.15677803		
R^2		0.024579351		
Adjusted R^2		0.014626079		
Standard Error		0.239207652		
F-Test		2.46947446		
Significance		0.119299901		
	Coefficients	**Standard Error**	**T Test**	**P-value**
Intercept	0.118196221	0.077417729	1.526733241	0.130115432
Book Value(x1)	-0.008676652	0.004559352	-1.903044929	0.060030945
Earnings per share(x2)	0.05071615	0.026049801	1.946891991	0.054470402
Corporate Social Responsibility disclosure(x3)	0.117314508	0.051997762	2.256145321	0.026330581

Source: output of SPSS. Net annual returns on shares was the independent variable.

According to Table (10), model (8) was statistically significant as the values of the F test and the Adjusted R Square were (2.340713726) and (0.039041522), respectively. Therefore, all the independent variables were statistically significant, as the (P-value) for all variables was less than (0.05). Therefore, hypothesis (8) was rejected. As a result,

all independent variables were of value relevance and had a weak explanatory power, as it explained only (0.039041522) of the changes in the share price. It is worth mentioning that when the Corporate Social Responsibility disclosure was included in the model along with earnings per share, the book value per share became of value relevance.

Table (10): The Statistical Results of Model (8)

Multiple R		0.261077528		
R^2		0.068161476		
Adjusted R^2		0.039041522		
Standard Error		0.236225539		
F-Test		2.340713726		
Significance		0.05813316		
	Coefficients	**Standard Error**	**T Test**	**P-value**
Intercept	0.118196221	0.077417729	1.526733241	0.130115432
Book Value(x1)	-0.008676652	0.004559352	-1.903044929	0.060030945
Earnings per share(x2)	0.05071615	0.026049801	1.946891991	0.054470402
Corporate Social Responsibility disclosure(x3)	0.117314508	0.051997762	2.256145321	0.026330581

Source: output of SPSS. Net annual returns on shares was the independent variable.

3.7 Content Analysis

A critical aspect of this research was the need to conduct a deep content analysis of the annual reports of (10) different banks over the past ten years to maintain valid content analyses. It was essential to highlight the content analysis in corporate social responsibility disclosure among the selected samples of listed Banks. Therefore, the content analysis focused on revealing the reality of (CSR) in banks listed on the Saudi stock exchange. To preserve the banks' secrecy, the study did not mention the names of the banks, but it used the banks' codes on the Saudi stock exchange.

The annual reports published by Bank (1010) have always followed the same structure over the study period. The yearly reports of Bank (1010|) included a variety of themes such as its vision, mission, values, strategy, performance, governance, risk management, social responsibility, and financial statements. In (2019), Bank (1010) stated that it would disclose its corporate social responsibility in response to the pandemic outbreak and Saudi Central Bank regulations. In addition, corporate social responsibility disclosure was descriptive and included several areas such as medical care, economic development, social development, environmental protection, and governance. Bank (1010) reports highlighted the Bank's commitment to providing excellent customer service and satisfaction across all its channels and segments and fostering a culture of innovation and creativity among its employees and stakeholders.

The annual reports published by Bank (1020) have always followed the same structure over the study period. Bank (1020) reports included a variety of themes, such as its mission, vision, core values, strategy, performance, governance, risk management, social responsibility, and financial statements. Bank (1020) was the only Bank that included monetary amounts reflecting expenditures on social responsibility activities. Moreover, the corporate social responsibility disclosure types were financial and supporting orphans, widows, people with special needs, health care, education, sports, culture, the environment, zakat, and social solidarity. The Bank has reported separate corporate social responsibility disclosures since (2013) to add a detailed descriptive report for the corporate social responsibility activities. The annual reports highlighted the Bank's commitment to providing excellent customer service and satisfaction across all of its channels and segments; the yearly reports emphasized the Bank's efforts to foster a culture of innovation and creativity among its employees and stakeholders.

The annual reports of Bank (1030) have contained its vision, mission, values, strategy, performance, governance, risk management, social responsibility, and financial statements. Bank (1030) began disclosing its corporate social responsibility in its financial report in (2019). In (2011), the Bank actively reported the corporate social responsibility report separately; in (2017), the Bank's annual report incorporated corporate social responsibility activities within the financial results. Corporate social responsibility disclosures included several areas such as education, health, charity, and the environment, but the disclosure was a descriptive report.

Bank (1050's) annual reports have always followed the same structure over the study period. The yearly reports of Bank (1050) included a variety of themes such as its vision, mission, values, strategy, performance, governance, risk management, social responsibility, and financial statements. In (2019), the Bank disclosed medical support as a social responsibility. In (2020), the disclosure of (CSR) included education, health, the environment, culture, and sports. The Bank did not have a separate corporate social responsibility report.

Bank (1060)'s annual reports have always followed the same structure over the study period. The Bank disclosed its corporate social responsibility activities in (2019) and reported a special section on its annual reports for corporate social responsibility in (2020). Moreover, most of those activities disclosed were about sustainable living, foundations, youth ambition, and staff volunteer work, and the disclosure was descriptive.

(1080) Bank's annual reports frequently included growth, innovation, digital transformation, customer delight, operational excellence, risk management, corporate governance, social responsibility, and sustainability. The Bank started disclosing its corporate social responsibility activities in (2017), and in (2019), the Bank disclosed its

support for the (COVID-19) pandemic. In (2020) and (2021), annual reports included corporate social responsibility covering environmental support, poverty mitigation, health, and education, but the disclosure was disruptive.

Bank (1140)'s annual report disclosed Medicare support as part of its corporate social responsibility in (2019). However, the Bank started reporting corporate social responsibility activities in (2018), including volunteering and commitment to the community, the environment, and the community. Most of those disclosed activities did not include financial details.

The (1150) bank's annual report disclosed Medicare support as part of its corporate social responsibility in (2019). However, the Bank started reporting corporate social responsibility activities in (2018), including environmental support and education. Additionally, the Bank has allocated (1%) of the annual profit for corporate social responsibility projects such as education, health, and the environment. However, most of those disclosed activities did not include financial details. (1180) The Bank's annual report included corporate social responsibility in its (2019) financial reports. The Bank started reporting its corporate social responsibility activities in (2017), including education and training opportunities, environmental awareness, and volunteer work. However, most of these disclosed activities did not include any financial details.

In conclusion, based on the content analysis conducted for the listed banks on the Saudi Exchange market and by focusing on the corporate social responsibility disclosure activities, it was sufficient to provide a valuable understanding of the behavior of the various banks in disclosing their corporate social responsibility disclosures. In (2019), all publicly traded banks adopted the same corporate social responsibility disclosure of healthcare support activities, which was descriptive.

In response to the Saudi Central Bank's guidelines titled "Key Principles of Governance in Financial Institutions (Saudi Central Bank, 2021), all banks have been disclosing activities related to Corporate Social Responsibility, and that disclosure was included in the annual financial reports. Bank (1150) was the only one that allocated (1%) of its profits to corporate social responsibility. The content analysis results indicated that a few banks quantitatively disclosed their social responsibility performance by allocating a separate item in the income statement showing the amount of spending on social responsibility initiatives. In addition, neither the standalone report on corporate social responsibility nor an audited separate report issued by the external auditor exists. However, the average disclosure rate of listed Saudi banks is increasing annually.

4. Conclusions, Discussions, and Recommendations

4.1 Conclusions and Discussions

This study aimed to quantitatively measure the relationship between (CSR) disclosure and banks' performance to determine whether investors in the Saudi capital market have considered this disclosure when making their decisions. The study used content analysis to reveal Saudi banks' (CSR) disclosure practices. According to the signaling theory, (CSR) disclosure is supposed to convey positive signals to investors. Ohlson's model (1995) was used to investigate whether (CSR) disclosure impacted banks' performance as the study used the dummy variable as banks and years with (CSR) disclosure taken (1) while banks and years without the (CSR) disclosure have taken (0). The Sample of the study included (10) banks listed on the Saudi stock market during the period from (2013) to (2022). The secondary data needed for the empirical research was taken from the Bank's annual financial reports and the Saudi capital market website. The descriptive statistics, the Correlation matrix, and the regression models were used

to test the study's hypotheses. The statistical results showed that the (CSR) disclosure index was statistically insignificant when included alone in the model, and the market performance was proxied by the share price. However, The (CSR) disclosure index was statistically significant when included along with the book value per share, the earnings per share in the model, and the market performance proxied by the share price. The (CSR) disclosure index was statistically insignificant when included alone in the model, and the market performance is proxied by net annual returns on shares. However, The (CSR) disclosure index was statistically significant when it was included along with the book value per share, the earnings per share in the model, and the market performance proxied by net annual returns on shares. The results confirmed that investors value the descriptive (CSR) disclosure. According to the content analysis results, all the (CSR) disclosures were descriptive except for some banks that disclosed financial values on their income statements regarding (CSR) performance. The external auditors did not ensure the (CSR) disclosure; either they did not give an opinion within the audit report or in a separate report. The content analysis results indicated that (CSR) descriptive disclosure included several areas: banks' products, employees, education, and healthcare.

4.2 Recommendations

Based on the results, the study recommends the following:

1. Disclosure on corporate social responsibility should be quantitative to fill this gap.
2. A separate report should include disclosure of corporate social responsibility.
3. Auditors should issue opinions on corporate social responsibility disclosure to add credibility to that disclosure.
4. Future studies will use a multidimensional index for (CSR) disclosure to measure its impacts on accounting and market-based indicators.

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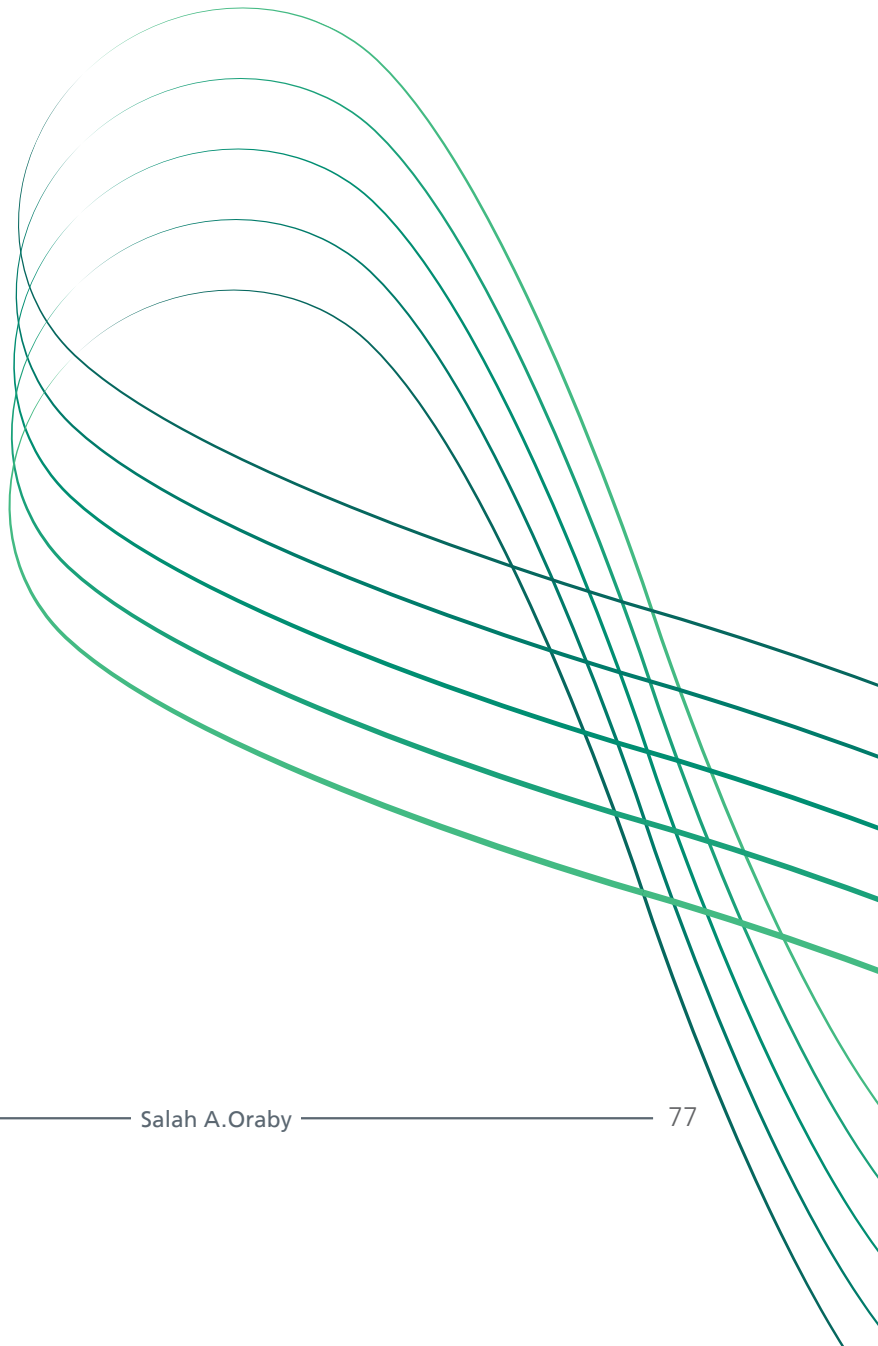

The Impact of ESG Performance on Cost of Capital and Financial Performance: An Empirical Study

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The Impact of ESG Performance on Cost of Capital and Financial Performance: An Empirical Study

Abstract

This study aims to investigate the impact of corporate sustainability performance (environmental, social, and governance (ESG) performance) on cost of capital and financial performance. A "Hierarchical Multiple Regression" was conducted to determine the impact of (ESG) performance on cost of capital and financial performance using data of (53) commercial banks in (7) MENA countries for the five-year period from (2018) to (2022). By taking into account the stakeholder theory framework, this study adds to the body of knowledge on ESG performance and its effects on capital costs and financial performance. The findings of the study reveal an adverse relationship between cost of capital and ESG performance, which aligns with stakeholder theory in that improving ESG performance can lower financial risks for companies. The findings also indicate a positive association between a bank's ESG performance and its financial performance; a bank's ESG performance may enhance financial performance, which may have a positive effect on investors, executives, decision-makers, and industry laws.

Keywords: Cost of capital, environmental performance, social performance, governance performance, ESG performance, banking sector, MENA countries.

تأثير أداء الاستدامة على تكلفة رأس المال والأداء المالي للشركات: دراسة تطبيقية

الخلاصة

تهدف هذه الدراسة إلى قياس أثر أداء الاستدامة للشركات (في البعد البيئي والاجتماعي والحوكمة) على كلٍ من تكلفة رأس المال والأداء المالي للشركة، باستخدام عينة من (53) بنكًا تجاريًا من (7) دول من منطقة الشرق الأوسط وشمال إفريقيا لفترة خمس سنوات من (2018م) إلى (2022م)، وذلك من خلال إطار نظرية أصحاب المصالح، وتم عمل أربعة نماذج باستخدام أسلوب الانحدار المتعدد. تُقدم الدراسة الحالية مساهمة علمية تضيف إلى الأدب المحاسبي المتعلق بأداء الاستدامة وأثره على كلٍ من تكلفة رأس المال والأداء المالي للشركات من خلال التطبيق على قطاع حيوي ومؤثر على الاقتصاد في كل دول العالم وهو قطاع البنوك التجارية. تكشف نتائج الدراسة عن وجود علاقة عكسية بين تكلفة رأس المال وأداء الاستدامة، ويتوافق هذا مع مفاد نظرية أصحاب المصلحة بأن تحسين أداء الاستدامة قد يقلل من المخاطر المالية للشركات، كما تشير النتائج إلى وجود علاقة إيجابية بين الأداء المالي للبنك وأداء الاستدامة؛ حيث إن أداء الاستدامة الجيد للبنك قد يعزز الأداء المالي، ما قد يكون له تأثير إيجابي على المستثمرين والمديرين التنفيذيين وصناع القرار وقوانين الصناعة.

الكلمات المفتاحية: تكلفة رأس المال، الأداء البيئي، الأداء الاجتماعي، أداء الحوكمة، أداء الاستدامة، قطاع البنوك التجارية، دول الشرق الأوسط وشمال إفريقيا.

1. Introduction

Environmental, social, and governance (ESG) principles have been developed from the fields of corporate governance (CG), environmental management, and corporate social responsibility (CSR), hence they are not new in terms of how companies handle nonfinancial information. As a result, the idea of "ESG" can help companies move in the direction of a more sustainable future (Suttipun, 2015). The (COVID-19) global financial crisis brings to light the broader consequences of the ESG component, which have a perplexing impact on the stability of corporate models, social tracks, and governance quality. Investors are becoming more and more concerned with ESG practices, especially in the wake of (COVID-19). The concept of ESG or sustainability performance suggests that a firm should widen its focus beyond generating short-term shareholder profit by considering how its operations will affect the interests of all stakeholders, including society as a whole, community, and environment (Freeman, 1984). In a survey conducted by PwC (2021), approximately (80%) of investors said that ESG considerations are crucial when making investment decisions, and (70%) of them said that CEO remuneration targets should take ESG considerations into account. Furthermore, (50%) of the investors said they are prepared to sell investments in companies that do not have specific and quantifiable ESG goals. These numbers show that corporations should raise their ESG scores if they want to continue luring capital from investors in future years, particularly at a low cost. Consequently, companies are under greater pressure to restructure their corporate ESG performance from shareholders and other stakeholders (Madime & Gonçalves, 2022). This entails reconsidering financial resources, such as issuing environmentally friendly bonds, utilizing loans with ESG restrictions, and choosing which endeavors to invest in and how to distribute capital sustainably. In addition, companies have been attempting to gauge how sustainability topics impact their operations, while other companies have implemented

grading systems to assess how well other companies behave in terms of ESG performance (Godfrey, 2005; El Ghoul, Guedhami, Kwok, & Mishra, 2011; Suttipun, 2023).

As a result, many academics are now eager to investigate how ESG performance affects several elements of business, including capital costs, debt costs, financial performance, company value, and stock prices. There are two research streams that are focused on this study's topic. The first stream is concerned with the relationship between cost of capital and ESG performance. (Eliwa, Aboud & Saleh, 2021) reported that banking institutions in fifteen EU countries received lower loan costs as compensation for disclosing ESG performance. Furthermore, their study argued that the majority of equity investors, according to UN member states, incorporate ESG factors into their equity investments in publicly traded corporations. Friede, (Busch & Bassen, 2015) found that companies with high ESG ratings reported reduced capital costs, equity costs, and loan costs than companies with poor ESG scores, similar results were reported by (Chen & Yue, 2022). In the same line, (Suttipun, 2023) investigated the association between ESG performance and corporate financial risk. His study samples encompassed all publicly traded firms in Thailand's alternative capital market from (2017) to (2021). According to his findings, there was a negative relationship between corporate financial risk and ESG performance. The signaling hypothesis exemplifies a justification for the idea that improving ESG performance might lower financial risk for companies. In Italy, for a sample of companies in the oil and gas industry, (Pellegrini, Caruso & Mehmeti, 2019) statistically examined the impact of ESG Scores on both cost of equity and corporate financial performance. The major variables of interest are: (1) the cost of equity; and (2) return on assets (ROA). They used a panel of data made up of (182) publicly traded companies from (2002) to (2018). The authors demonstrated that companies with higher ESG Scores have a lower cost of equity financing by using a fixed effect regression model and a set of control factors. The analysis

of Pellegrini, (Caruso & Mehmeti, 2019) supported arguments made in the literature that companies with stronger ESG performance are more valued and less risky.

Furthermore, a second line of research for this study is concerned with the relationship between financial performance and ESG performance. Recent academic studies (Eccles, Ioannou & Serafeim, 2014; Malik, 2015; Rezaee, 2016) revealed an association between corporate financial performance and ESG performance. For example, (Eccles, Ioannou & Serafeim, 2014) asserted that companies must provide ESG information to stakeholders in order to attract long-term investment. Additionally, ESG analysis provides a thorough understanding of potential environmental and social risk areas as well as opportunities for firms in quickly changing markets. Companies that put an emphasis on ESG investments can boost earnings and long-term sustainability while cutting costs, boosting efficiency, lowering risk potential, delivering opportunities for generating money, and minimizing risk. (Gao, Li & Zou, 2022) argued that financial performance could be improved by ESG performance, which could have an effect on shareholders, managers, stakeholders, and industry laws.

A large number of studies (Qiu, Shaukat, & Tharyan, 2016; Velte, 2017; Fatemi, Glaum, & Kaiser, 2018; Habib, 2022; Koundouri, Pittis, & Plataniotis, 2022; Naeem and Çankaya, 2022; Ademi and Klungseth, 2022; Habib and Mourad 2023) found evidence that companies with higher ESG performance have greater profitability and are more highly valued in the market compared to their competitors in the same sector. The accounting literature did not, however, completely disprove the idea that there is no association or that the ESG score has an adverse impact on the firm's value and financial performance. For example, (Wasiuzzaman, Ibrahim & Kawi, 2022) provided evidence that ESG has an extremely negative impact on corporate performance.

The current study's main objective is to clarify how the impact of ESG score on cost of capital and financial performance for a sample of commercial banks from MENA countries.

This study enhances the body of prior research in a number of ways. First, it adds to the modest body of past research that examines how a company's ESG performance influences the cost of debt and has yielded conflicting results. Second, it is carried out in a MENA country, in contrast to most studies on this subject, which are concentrated on either European countries or US inhabitants. The results of the impact of ESG performance for listed commercial banks on both cost of capital and financial performance can highlight the obvious gap between commercial banks in MENA countries and in other developed countries where more statistical evidence is available.

The anticipated practical contribution of the study is that ESG performance, if it can lower their financial risk and work, may then be used as a communication tool for all stakeholders, creditors, and investors to inform their investment decisions. Lenders already use creditworthiness valuation models that take into account the significance of ESG practices. Companies may be driven to improve their ESG performance because of the relatively substantial role that lending institutions play, which would be advantageous to all stakeholders.

The structure of the study is organized as follows: In Section (2), the theoretical background of ESG performance is presented. Section (3) contains a review of the literature and the formulation of research hypotheses. Section (4) discusses research methodology, whereas Section (5) examines statistical data analysis and discussion. Conclusions, limitations, and suggestions for future research are presented in Section (6).

2. Theoretical Background of ESG Performance

There are many approaches to explain the connection between a company's ESG performance and its cost of capital as well as financial performance. There are many hypotheses that provide justifica-

tions for the ESG issues. Stakeholder theory, which forms the basis for risk mitigation theory, and agency theory, both theories support overinvestment theory, and are the most popular theories used to explain these interactions among the three variables. According to stakeholder theory-risk mitigation theory, the company is seen as a web of stakeholder connections, serving as a foundation for risk mitigation. In order to increase and disperse stakeholder value, executives manage these relationships (Parmar, Freeman & Harrison, 2010). Reputable companies would experience lower capital costs since, in the opinion of investors, they have lower risk profiles. This viewpoint holds that there is a reduced possibility that undesirable events will have an impact on ethical firms, and if they do, ESG can act as a buffer to mitigate the effects (El Ghoul, Guedhami, Kwok & Mishra, 2011). (Godfrey, 2005) argued ESG can be seen as a way to strengthen these relationships by lowering the likelihood of unfavorable occurrences like expensive lawsuits and clean-ups due to environmental damage, unsafe product recalls, and strikes by disgruntled workers, and brand and reputation erosion from scandals.

The stakeholder theory provides a deeper understanding of the term ESG by stating that the company does not belong to one party (owner or investor) alone, but rather should be taken into consideration keeping into account the wide range of entities that participate in it and, thus, those make it feasible (Parmar, Freeman, & Harrison, 2010). As a result, the company's objective should be to create benefits for all stakeholders, including employees, clients, the community, and all other resources, rather than just maximizing financial advantages for shareholders. The primary goal of ESG operations is to guarantee the company's sustainability. The long-term sustainability of a company and the company's social responsibility are now essential factors for investors, especially young ones. According to this line of reasoning, the company would make public information on both financial and non-financial activity. With less information asymmetry among

stakeholders, investors would have more faith in the information that has been disclosed. As a result of less skewed information being shared between the company and investors and increased transparency levels, realized risks are reduced (Cheng, Ioannou & Serafeim, 2014). The company engages in non-commercial activities such those that are related to the environment, society, and governance in order to maximize value for the business as well as for all stakeholders.

According to risk mitigation theory, there is evidence to show a negative correlation between ESG performance and cost of capital. Prior studies on the relationship between credit ratings and ESG performance provided more support for risk reduction. For example, (Jung, Herbohn & Clarkson, 2018) found that Australian firms with lower risk awareness and higher carbon risk paid (38) to (62) basis points more for their loans than companies with greater risk awareness. For example, (Godfrey, Merrill & Hansen, 2009) tested the impact of (178) unfavorable regulatory and legal actions taken against firms over the course of (11) years and find that while such actions directed at the firms' trading partners had no such effect, firms engaged in sustainability activities aimed at society benefited from the "insurance quality" of moral capital. Re-brandings of financial instruments, particularly investment funds, have been prompted by the significance of ESG concerns, and regulation on the subject (El Ghoul and Karoui, 2021). However, some scholars discovered a lack of evidence supporting the idea that ESG performance and equity cost are negatively correlated. (Gregory, Tharyan & Whittaker, 2014) claimed that although market sentiment connects ESG strengths with improved financial performance, the impact originates primarily from higher expectations of future growth instead of from cost of equity capital when calculating cost of equity in green and toxic portfolios.

The contrasting point of view on the association between ESG and both cost of capital and financial performance is agency theory which provides support for overinvestment theory, a risk mitigation theory

alternative (Jo and Harjoto, 2012). Investing in socially and environmentally responsible projects at will is an expensive deviation from making the optimal use of scarce resources. The overinvestment theory predicts that companies with better ESG scores should experience higher capital costs. According to the overinvestment theory, a company's involvement in ESG performance reflects a diversion of corporate resources and makes it more vulnerable to credit monitoring by lenders, increasing the cost of borrowing (Goss and Roberts, 2011; Leins, 2020). As a summary of earlier discussions on the relationship between ESG performance and cost of capital, stakeholder theory-risk mitigation theory predicts a negative link between both variables, whilst agency theory-overinvestment theory expects a positive association between both variables. Regarding the association between ESG performance and corporate financial performance, according to stakeholder theory, there is a positive relationship between ESG performance and corporate financial performance, although agency theory predicts an inverse relationship. The current study uses stakeholder theory-risk mitigation theory to develop its hypotheses.

3. Literature Review and Hypotheses Development

3.1 The cost of capital and ESG performance

There is no consensus among scholars on how ESG performance affects the cost of capital or debts. The bulk of empirical studies (El Ghoul, Guedhami, Kwok, & Mishra, 2011, 2018; Eliwa, Aboud, & Saleh, 2021; Rao, 2023) found a negative association between cost of equity or debt and ESG performance.

For example, (Rao, 2023) investigated the association between corporate capital cost and its ESG score. His sample consists of (4365) firm-year observations covering the period from (2015) to (2020). The findings of his study revealed a significant inverse relationship between cost of capital and its ESG score. Using a sizable sample drawn from (15) countries are members of the European Union, covering the period

from (2005) to (2016), (Eliwa, Aboud & Saleh, 2021) found that lenders appreciate both ESG performance and disclosure and incorporate ESG information in their borrowing decisions, which is in line with an aspect of legitimacy theory. This is because companies with greater ESG performance have less debt costs, and ESG disclosure has the same effect on debt costs as ESG performance. (Cooper and Uzur, 2015) reported a negative association between the two variables, meaning that a commitment to CSR results in lower interest rates on bank loans. In particular, (Cooper and Uzur, 2015) contended that CSR practices are essential to "decide cost of debt" from the viewpoint of strategy execution since they help to lower the cost of debt financing. Similar to this, (Anis & Utama, 2016) proposed that "both borrowers and lenders should benefit from CSR disclosure or ESG disclosure.

Furthermore, (Hoepner, Oikonomou, Scholtens, & Scholtens, 2016) linked cost of loans to a country-level analysis as well as a firm-level analysis of CSR performance, taking into consideration each sub-dimension of environmental, social, and governance concerns. As a result, the literature is enriched by their work. They demonstrated that social and environmental initiatives have a statistically significant effect on loan financing, with social initiatives having a smaller cost-reduction benefit than environmental ones. (Chouaibi, Rossi, & Zouari, 2021) reported that boosting a commitment to CSR-reporting attracts greater scrutiny and institutional investors, which lowers the cost of acquiring stock. The authors demonstrated that a company's motivation to disclose non-financial information improves if its cost of equity is very high, covering the period from (2015) to (2020), their analysis used (924) observations and information from (154) French firms. In the same line, (Ng and Rezaee, 2015) used a sample of more than (3,000) firms between (1990) and (2013) to find that ESG has a negative relationship with equity cost. In the same line, using two large samples from the (STOXX) Europe (600) includes all companies, and from (2002)

to (2018), these companies are from (17) different European Union Member States, (Gonçalves, Dia, & Barros, 2022) investigated the relationship between ESG performance and both cost of capital and cost of debt. While the sample to research cost of equity consists of (4,276) firm-year data from (413) unique firms, the sample to analyze cost of debt consists of (388) different firms in a sample of (4,383) firm-year observations. Their results found that (ESG) is priced by the equity and debt markets, however in various ways. While improved ESG performance is positively associated with lower debt costs, it is negatively associated with lower equity costs.

However, other studies revealed either an unclear association (Gregory, Tharyan, & Whittaker 2014) or a positive association (Magnanelli and Izzo, 2017) between the two factors. For example, the results of (Gonçalves, Dias & Barros 2022) showed a statistically significant positive relationship between corporate cost of debt and its ESG performance, suggesting that lenders view (ESG) initiatives as an unnecessary use of resources, in line with the agency-overinvestment theory. (Menz, 2010) and(Magnanelli & Izzo, 2017) all came to similar conclusions. (Khosravi and Wadman, 2022) established a substantial inverse relationship between (ESG) scores and both the average cost of capital and cost of debt with an analysis of (468) observations spanning (157) firms from (2015) to (2020). However, for the model with cost of equity, the authors did not discover any remarkable findings. Their findings demonstrated that Swedish firms get compensated for their efforts in ESG by reducing cost of loan. Moreover, (Menz, 2010) reported a weak positive association between the two variables. The author concluded that it is conceivable that the credit ratings employed in the model already take (ESG) performance into consideration and that adding a second noncertified (ESG) rating does not enhance the explanatory power of (ESG) performance for bondholders. (Suto and Takehara, 2017), on the other hand, found no indication of a negative

relationship between (CSR) and cost of debt; rather, their findings revealed a positive relationship. They argued that debtors on the Japanese market view (CSR) initiatives as pricey rather than as valuable sources of information.

Given that the current study's first objective is to examine the impact of ESG performance on cost of capital, thus, the following hypothesis is established in light of the previous discussion and from the perspective of stakeholder theory:

H1: There is a significant negative association between cost of capital and ESG performance.

3.2 The corporate financial performance and ESG performance

Consumers choose companies based on their (CSR) policies, according to a survey (Allianz, 2019). In addition, the global KPMG Company found that (96%) of the biggest publicly traded firms worldwide are presently disclosing information on their (ESG) performance. Additionally, some companies believe that publishing their success in this area highlights the importance of (ESG) to the market and investors going forward and that focusing on (ESG) concerns ensures ongoing financial performance and investment (KPMG, 2020). For example, (Habib and Mourad, 2023) investigated the impact of overall ESG practices as well as the coronavirus epidemic on US firm performance. They used a sample of (406) US companies that adopted ESG concerns between (2016) and (2020). The findings of their study implied that companies with improved (ESG) performance have superior performance metrics. (Qiu, Shaukat & Tharyan, 2016) examined the association between environmental and social disclosures and financial performance for a sample of companies listed on the (FTSE350) index between (2005) and (2009). According to the findings of their study, companies with more financial resources did better financially and made more complete disclosures.

Furthermore, using a sample of (150) US companies from (2017) to (2020), (Ademi and Klungseth, 2022) investigated the relationship between (ESG) performance and financial performance, their findings indicated a positive effect on financial performance. (Habib, 2022) used a sample of (964) US firm-year data from (2016) to (2019) to assess the effect of (ESG) performance on firm value. The findings indicated a positive effect on corporate value. Using a sample of (468) companies in (2020), (Kalia and Aggarwal, 2022) investigated the impact of (ESG) practices on the financial performance of healthcare firms. The findings suggested that industrialized economies have a positive impact on financial performance whereas developing economies have a negative influence. Using a sample of (57) US companies, (Nguyen, Hoang & Tran, 2022) examined the impact of (ESG) practices on financial performance. The findings showed that financial performance is positively impacted. In a similar vein, (Rami & Andr, 2019) tested the connection between (ESG) performance and corporate financial performance and found that while (ESG) performance greatly increases company profitability. In Germany (Velte, 2017) reported similar finding on the two variables. (Koundouri, Pittis & Plataniotis, 2022) conducted an empirical investigation to determine if there is any evidence linking strong ESG performance to a company's sound financial standing using a list of the top (50) European firms according to their (ESG) performance. The main finding of their study showed that corporate profitability in all industries that do well in terms of (ESG) is clearly superior. This finding suggested that (ESG) performance has a positive impact on (ROA). (Gao, Li & Zou, 2023) investigated the impact of (ESG) performance on corporate financial performance from a company life cycle theory perspective using data for (11,742) firm-year observations pertaining to (1,486) Chinese A-share listed companies from (2010) to (2020). The findings of their study demonstrated that (ESG) performance can significantly enhance company performance over the entire life cycle, but particularly during the growth period. Additionally, the

methodological evaluation demonstrated that for companies in the growth and time of maturity stages, the relationship between (ESG) performance and corporate performance is mediated by financial risk. When the quality of corporate information disclosure is positive, the relationship between (ESG) and company performance is stronger.

Moreover, the results of (Naeem & Çankaya, 2022) suggested that while ESG performance has a negative impact on a company's market valuation, it has significant and positive effects on the profitability of the company. Companies can effectively increase their appeal in the capital market by strengthening their (ESG) performance. Higher ESG performance would result in lower corporate equity financing costs as well as debt financing expenses (El Ghoul, Guedhami, Kwok, & Mishra, 2011; Raimo, Caragnano, Zito, Vitolla, & Mariani, 2021). Banks are more likely to grant loans to corporations that disclose (CSR) information as a result of environmental protection and the green financial concept (Xu, Xu & Yu, 2021; Fu, Abbass, Niazi, Zhang,Basit & Qazi, 2022).

On the other hand, (Buallay & Al Marri, 2022) used a sample of (1844) observations from (2008) to (2017) to examine the impact of ESG disclosure on the performance of the telecommunications and information technology sectors in (41) countries. According to their findings, there was a negative impact on market performance but no appreciable impact on operational or financial performance. (Ho and Taylor, 2007) and (Lopez, Garcia & Rodriguez, 2007) reported a negative association between them. In Turkey, (Taskin, 2015) and (Akben and Kiymaz, 2017) did not discover any positive or significant association between firm financial performance and performance associated with (CSR). (Atan, Alam Said & Zamri, 2018) investigated the relationship between ESG performance and financial success of Malaysian firms. They found that there is no obvious relationship between Malaysian companies' financial performance and their (ESG) performance. (Wasiuzzaman, Ibrahim & Kawi, 2022) used a sample of 668 companies from the energy sector to examine the relationship between (ESG) practices and financial performance. These results demonstrated a

detrimental effect on financial performance. (Ahmad, Mobarek & Roni, 2021) used a sample of (351) UK firms between (2002) and (2018) to examine the impact of ESG on financial performance. The results showed that financial performance is greatly influenced in a positive way. (Chen, Yuan, Cebula, Shuangjin & Foley, 2021) used a sample of (311) Chinese-listed companies from (2008) to (2019) to investigate the impact of (ESG) responsibility on financial performance. As corporate financial performance is adversely impacted by (ESG) fulfilment in the short term, the results demonstrated that the influence of (ESG) fulfilment on financial performance is dynamic and long-term. However, over the long run, (ESG) fulfilment has a considerable and positive impact on corporate financial performance.

Given that the current study's second objective is to examine how (ESG) performance affects banks' financial performance therefore the following hypothesis is proposed in light of prior research and the stakeholder theory's point of view:

H2: (ESG) practices positively influence financial performance during the study period.

4. Research Methodology

The Statistical Package for Social Sciences (SPSS) is used to conduct a statistical analysis (Pearson correlation and regression analysis) in addition to descriptive statistics, which primarily depend on the mean and standard deviation for the variables of the study. The strength of the association between the variables of the study is investigated using "Pearson Correlation". "Hierarchical Multiple Regression" (HMR) is used to exclude any potential influence of the control variables on dependent variables, in contrast to Ordinary Least Squares (OLS) regression, which is frequently utilized in the accounting and finance literature (Desoky, Mousa, Yassin, & AbuRaya, 2020). Regression diagnostics are examined in each model to evaluate the possibility of multicollinearity between two or more predicator variables. The

current study has applied the fixed effect for both "country" and "time" to establish the objectives of the current study. A number of tests are conducted to check the reliability of the results of current study.

4.1 Measurement of the study's variables

4.1.1 Independent variable (ESG performance)

The impact of (ESG) performance on capital costs and financial performance is examined in this study. It gathered data on (ESG) performance from Thomson Reuters (ESG) ratings, which are measured by the DataStream (ESG-ASSET4) (Fatemi, Glaum & Kaiser, 2018). The purpose of Thomson Reuters (ESG) ratings is to assess a company's relative (ESG) performance, dedication, and efficacy across three key dimensions (environmental, social and governance) that encompass ten themes (Thomson Reuters, 2017). The (ESG) score (100%) is broken down by Thomson Reuters as follows:

- Environment score (34%): consumption of resources (11%), emissions (12%), and innovation (11%);
- Social score (35.5%): society (8%) and product accountability (7%), workforce (16%), and human rights (4.5%); and
- Governance score (30.5%): management (19%), stockholders (7%), and (CSR) strategy (8%). It must be noted that ESG values vary from (0) to (100), with (100) representing the highest possible score (Refinitiv, 2019, pp. 10-11).

4.1.2 Dependent variables (Cost of capital- Corporate financial performance)

First: Cost of capital measure

The price-earnings valuation models or the residual income valuation models (Claus and Thomas, 2001) are the two methods for calculating the cost of capital that are offered in the accounting

literature (Easton, 2004; Ohlson and Juettner-Nauroth, 2005). According to Kothari, Li, & Short (2009), price earnings models are more effective than residual income valuation models at predicting longitudinal variations in stock prices. (Cl'ere, 2019) proposed a new method for calculating the cost of debt based on systematic risk and default risk. Our research is part of a series that uses price-earnings models. Price Earnings Growth Ratio (PEG) Model is used (Easton, 2004). In numerous investigations, the (PEG) model has been employed (Vena, Sciascia & Cortesi, 2019; Easton, 2004; Gray, Koh, & Tong, 2009; Eliwa, Haslam & Abraham, 2016).

$$r_{PEG} = \sqrt{\frac{E_{(eps_{t+2})} - E_{(eps_{t+1})}}{P_t}}$$

where $\mathbf{eps}_t$ = earnings per share in period *t*; $\mathbf{P}_t$ = share price in period *t* (Easton, 2004).

Second: Corporate financial performance measure (Return on Assets)

Different proxies, such as return on assets, return on equity, growth rate, (Tobin's Q), and others, were used to measure corporate financial performance in several studies that tested the relationship between ESG performance and financial performance (Taskin, 2015; Akben and Kiymaz, 2017; Atan, Alam, Said & Zamri, 2018; Chen, Yuan, Cebula, Shuangjin, & Foley, 2021; Ahmad, Mobarek, & Roni, 2021; Wasiuzzaman, Ibrahim & Kawi, 2022). As shown in Table (1), the current study employs return on assets as a proxy to assess financial performance similar to several studies (Naeem and Çankaya, 2022; Hamdi, Guenich & Ben Saada, 2022; Gao, Li & Zou, 2022).

4.1.3 Control variables

Previous studies have frequently discovered significant associations between control factors and both cost of capital, and corporate

financial performance (Eliwa, Aboud & Saleh, 2021; Naeem and Çankaya, 2022; Koundouri, Pittis & Plataniotis, 2022; Gao, Li & Zou, 2023, Suttipun, 2023). One of the most well-known and frequently employed gauges of risk for the financial markets is beta. It serves as a stand-in for the knowledge gap that exists between the firm's managers and investors. This metric gauges a stock's risk with respect to the market. It gauges how closely a stock's returns follow changes in the stock market. The beta coefficient measures a stock's volatility in relation to the market as a whole, which reflects a stock's propensity to move with the market (Mousa & Elamir, 2013).

Therefore, the current study has considered a number of control variables following previous studies namely, firm size (SFRM), financial leverage (FLVG), beta bank (BETA), board size (BORD), board independence (BINDP) and firm age (AGE) are the factors in question, in addition, using the fixed effect for both the country (COUNT), and the time (TIME). Table (1) provides a definition of the variables used in the study.

Table (1): The study's variables and their related proxies

Variable	Symbol	Measurement
ESG performance	ESG	A natural logarithm of ESG score based on Thomson Reuters ASSET4 is the source.
Cost of capital	CCOST	Price Earnings Growth Ratio (PEG) Model that is used (Easton, 2004).
Firm performance (Return on Assets)	ROA	Net income divided by the total assets. (Hamdi, Guenich, & Ben Saada, 2022; Koundouri, Pittis, & Plataniotis, 2022).
Firm size	SFRM	Natural log of total assets (Kolsi, 2017; Gao, Li, & Zou, 2023).
Financial leverage	FLVG	Total debts to total assets (Gao, Li, & Zou, 2023).
Beta bank	BETA	Yearly stock returns and market returns over the duration of the financial year in question (Mousa and Elamir. 2013).
Board size	BORD	The total number of board members.
Board independence	BINDP	The proportion of non-executive directors to all board members.
Firm age	AGE	Number of years of corporate establishment (Gao, Li, & Zou, 2023).

4.3 Institutional Context & Sample Selection

Our sample consists of (265) bank-year observations for (53) commercial banks from seven MENA countries namely, Egypt (EG), Jordan (JO), Bahrain (BAH), the United Arab Emirates (UAE), Kuwait (KU), Qatar (QA), and Oman (OM). These observations span the years (2018) through (2022). Islamic banks are not included because of how they are run and because they adhere to distinct rules and laws. The current study chose commercial banks because of their special significance to the economies and financial markets for all nations. The modern economy depends on the banking industry. Even though banks do a variety of tasks, their main function is to gather deposits from individuals who have money, put them in a pool, and then lend the money to others who need it. Banks act as middlemen between depositors, who lend money to the bank, and borrowers, to whom the bank extends credit. Table (2) shows the study sample's country-specific distribution from (2018) to (2022).

Table (2): The study sample's distribution

Country	Number	Total number of observations for 5 years (from 2018 to 2022)
Bahrain (BH)	3	15
Egypt (EG)	9	45
Jordan (JO)	12	60
Kuwait (KU)	6	30
Qatar (QA)	5	25
Sultanate of Oman	7	35
United Arab Emirates (UAE)	11	55
Total	53	265

4.4 Data Collection

For the purpose of gathering data, the current study uses a variety of sources, including the Thomson Reuters database, the ESG

Thomson Reuters ASSET4 database, the annual reports and websites of the sample banks utilized in the study, as well as data from the stock markets in the seven countries, as well as using Mubasher, we also obtained some financial data from other financial websites.

4.5 Main Models

Linear HMR regression has been used in the current investigation. Two models are run for each dependent variable (CCOST and ROA). One model accounts for the control variables, and another for both independent (ESG performance) and control variables. Additionally, the regressions' country- and time-fixed effects are controlled. Four regression equations are applied as follows:

Model (1) examines the association between CCOST (as a dependent variable) and seven control variables (SFRM, FLVG, BETA, BORD, BINDP, ROA and AGE).

$$CCOST = \beta_0 + \beta_1 SFRM + \beta_2 FLVG + \beta_3 BETA + \beta_4 BORD + \beta_5 BINDP + \beta_6 AGE + \beta_7 ROA + \varepsilon_{it}$$

Where Y = (the dependent variable: CCOST); β_0 is a constant; β=1,…,7, are parameters; and ε is error term.

Model (2) investigates the association between CCOST (as a dependent variable) and ESG performance (as independent variable) with control variables (SFRM, FLVG, BETA, BORD, BINDP, ROA and AGE).

$$CCOST = \beta_0 + \beta_1 ESG + \beta_2 SFRM + \beta_3 FLVG + \beta_4 BETA + \beta_5 BORD + \beta_6 BINDP + \beta_7 AGE + \beta_8 ROA + \varepsilon_{it}$$

Where Y = (the dependent variable: CCOST); β_0 is a constant; β=1,…,8, are parameters; and ε is error term.

Model (3) examines the association between ROA (as a dependent variable) and six control variables (SFRM, FLVG, BETA, BORD, BINDP and AGE).

$$ROA = \beta_0 + \beta_1 SFRM + \beta_2 FLVG + \beta_3 BETA + \beta_4 BORD + \beta_5 BINDP + \beta_6 AGE + \varepsilon_{it}$$

Model (4) investigates the association between ROA (as a dependent variable) and ESG performance (as independent variable) with six control variables (SFRM, FLVG, BETA, BORD, BINDP and AGE).

$$ROA = \beta_0 + \beta_1 ESG + \beta_2 SFRM + \beta_3 FLVG + \beta_4 BETA + \beta_5 BORD + \beta_6 BINDP + \beta_7 AGE + \varepsilon_{it}$$

Where Y = (the dependent variable: ROA); β_0 is a constant; β=1,…,7, are parameters; and ε is error term.

5. Statistical Results and Discussion

5.1 Descriptive statistics

Table (3) displays the descriptive statistics for each variable. It reveals that (53) listed banks from seven different countries were included in the sample throughout a five-year period (from 2018 to 2022). ESG performance has an average of (1.5562) with a standard deviation of (0.16450). Cost of capital is (0.1478) on average. FLVG has a mean value of (7.9229). The SFRM's mean value is 8.8296. The smallest board size BSIZE was (7), and the highest board size (17 members) had a mean score of (10.2943). The ratio of non-executive directors to all board members BINDP must be between (71%) and (100%), with an average of (91%) nearly.

Table (3): The descriptive statistics of the study's variables

Descriptive Statistics					
	N	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
CCOST	265	0.01	0.73	0.1478	0.10114
ROA	265	-5.43	4.30	1.1705	1.16770
ESG	265	0.99	1.86	1.5562	0.16450
FLVG	265	2.63	15.63	7.9229	2.04904

SFRM (Natural log $)	265	2.63	130.24	8.8296	10.80169
BETA	265	2.11	5.49	3.6452	0.74785
BORD	265	7.00	17.00	10.2943	1.95890
BINDP	265	0.71	1.00	0.9113	0.05625
AGE (number)	265	12.00	24.00	18.7472	3.58557

5.2 Pearson correlation matrix

The associations between the variables in the study were examined using Pearson correlation. Table (4) presents correlation findings and indicates some significant correlations between dependent variables (CCOST and ROA) and other variables at varying degrees of significance.

For instance, three variables (ESG, SFRM, and BORD) with different coefficients (-0.054, -0.118, and -0.164, respectively) are strongly adversely correlated with the first CCOST variable. While FLVG and CCOST are strongly positively correlated. Regarding ROA variable, Table (4) shows ROA has a significant positive correlation with ESG performance, BETA, and BINDP with different coefficients (0.098**, 0.175**, and 0.115**, respectively). Table (4) also reveals a negative correlation between ROA and BORD.

Table (4): Pearson correlation analysis

	CCOST	**ROA**	**ESG**	**FLVG**	**SFRM**	**BETA**	**BORD**	**BINDP**	**AGE**
CCOST	1.000								
ROA	-0.027	1.000							
ESG	-0.054**	0.098**	1.000						
FLVG	0.118**	0.034	0.067	1.000					
SFRM	-0.118**	-0.032	-0.069	0.996**	1.000				
BETA	0.015	0.175**	0.171**	0.067	0.070	1.000			

BORD	-0.164**	-0.103*	-0.052	-0.118**	-0.119**	-0.330**	1.000		
BINDP	0.037	0.115**	0.042	0.035	-0.037	-0.089*	0.150**	1.000	
AGE	0.080	0.048	0.091*	0.143**	0.146**	0.243**	-0.197**	-0.141**	1.000

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

5.3 The Variance Inflation Factor (VIF)

There are two methods to examine multi-collinearity of the current study. Preparing the correlation matrix of all the study's variables is the first easy way. Utilizing the Variance Inflation Factor (VIF) for each independent variable is the second technique for determining multi-collinearity. It is an indicator of multicollinearity in the collection of variables used in multiple regression. The association between this variable and the others is larger the higher the value of VIF. The VIF value is typically regarded as having a high correlation with other independent variables if it is more than (10). The acceptable range is, however, depending on conditions and limitations. The power of the model to find independent variables that are statistically significant is diminished by multicollinearity, which also makes it challenging to interpret the coefficients of the model (Kutner, Nachtsheim, & Neter, 2004; James, Witten, Hastie & Tibshirani, 2017). The VIF values for all variables included in the current study are less than (10) as shown in Table (5) below.

Table (5): The results of Collinearity Statistics

Variables	Collinearity Statistics	
	Tolerance	VIF
ESG	0.931	1.074
ROA	0.929	1.076
CCOST	0.808	1.102
FLVG	0.829	1.207

LFIRM	0.895	1.117
BETA	0.629	1.589
BORD	0.700	1.429
BINDP	0.869	1.150
AGE	0.166	6.041
Country	0.181	5.535
YEAR	0.544	1.838

5.4 Durbin–Watson Test

Durbin–Watson (DW) Test is performed to determine whether there is "no autocorrelation" among the errors. It's a simple test for verifying the presence of autocorrelation in regression analysis residuals. A basic guideline is that DW test statistic scores between (1.5) and (2.5) are generally considered to be acceptable. Values that are outside of this range may be concerning. Values below (1) or above (3) are unquestionably concerning (Chatterjee and Simonoff, 2013). Table 6 provides the results of Durbin–Watson Test. The scores for the models in the current investigation, which range from (1.5) to (2.5), are acceptable.

Table (6): The results of Durbin–Watson Test

Model Number	The value of Durbin–Watson Test
Model 1 & 2	1.264
Model 3 & 4	1.134

5.5 The results of Hierarchical Multiple Regression

In Table (7), the outcomes of Models (1) and (2), using (CCOST) as a dependent variable, are shown. Table (7) demonstrates that the first model, Model (1) is significant in explaining the dependent variable of CCOST (0.002) is the (P-value), (10.456) is the (F-value), and the adjusted R^2 is over (21.6%). Additionally, the second model, Model (2), is important in explaining CCOST (0.001) is the (P-value), (14.876) is the (F-value), and the modified R^2 is nearly (27.7%). All control and independent variables are present in Model (2). When ESG performance

is added to Model (2), (R^2) values shift from (21.6%) to (27.7%) in Model (1) versus Model (2), respectively. Model (1) solely displays the outcomes of CCOST with the control variables. The findings indicate a negative association between (CCOST) and the three variables (SFRM, ROA, and BORD) as reported by (Rao, 2023) and (Yilmaz, 2022). Also, (CCOST) has a positive relationship with FLVG, BETA and AGE. These findings suggest that the smaller companies have lower borrowing costs and larger companies have greater borrowing costs as leverage levels rise.

According to Model (2), the results demonstrate that companies with stronger ESG performance have lower capital costs, which is consistent with our assumptions. This study implies that financial institutions are less willing to pay a pound of debt for such companies in terms of interest as ESG performance increases. Additionally, (BORD) has a significant negative relationship with (CCOST), which means that a large board will reduce (CCOST) in a way that is inconsistent with agency theory. While, FLVG has a significant positive association with (CCOST), meaning that when leverage levels rise, (CCOST) rises due to rising financial risk. This is consistent with earlier studies (Ng & Rezaee, 2015, Cooper & Uzur, 2015; Hoepner, Oikonomou, Scholtens & Scholtens, 2016; Eliwa, Aboud, & Saleh, 2021, Rao, 2023). This outcome supports the first hypothesis **(H1)** in the current study. It suggests that financial institutions do incorporate information about (ESG) performance of borrowing firms when evaluating their risk profile in their lending decision model. This finding supports stakeholder theory which expects a negative association between (CCOST) and (ESG) performance.

Table (7): HMR regression of (ESG) performance on the cost of capital

Coefficients					
Model 1	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	0.130	0.152		0.857	0.392
ROA	-0.006	0.005	-0.072	-1.170	0.243
FLVG	0.009	0.003	0.178	2.690	0.008
SFRM	-0.002	0.001	-0.035	-0.554	0.580
BETA	0.008	0.010	0.063	0.842	0.400
BORD	-0.012	0.004	-0.232	-3.269	0.001
BINDP	0.098	0.116	0.055	0.847	0.398
AGE	0.002	0.004	0.070	0.483	0.629
COUNT dummies	Yes				
YEAR dummies	Yes				
R^2	0.4287				
Adjusted R^2	0.2165				
F	10.456				
Sig	0.002				
Model 2					
	B	Std. Error	Beta	t	Sig.
(Constant)	0.023	0.166		.140	.889
ESG	-0.060	0.038	-0.098	-1.586	0.004
ROA	-0.007	0.005	-0.081	-1.313	0.190
FLVG	0.009	0.003	0.183	2.778	0.006
SFRM	-0.002	0.001	-0.038	-0.602	0.548
BETA	0.011	0.010	0.080	1.066	0.287
BORD	-0.012	0.004	-0.241	-3.392	0.001
BINDP	0.103	0.116	0.057	0.895	0.372
AGE	0.003	0.004	0.101	0.689	0.491
COUNT dummies	Yes				
YEAR dummies	Yes				

R^2	0.4266
Adjusted R^2	0.2773
F	14.876
Sig	0.001
a. Dependent Variable: CCOST	

In Table (8), the results of Models (3) and (4) using ROA as a dependent variable are displayed. Table (8) shows that the Model (3) significantly explains the dependent variable of (ROA) with a (P-value) of (0.000), the (F-value) of (11.556), and an adjusted (R^2) of (27.85%). In addition, the fourth model, Model (4) (0.000) of (P-value), (16.575) of (F-value), and an adjusted (R^2) of (28.73% roughly), is crucial for understanding (ROA). Model (3) has all control variables. The value of an adjusted (R^2) changes when (ESG) performance is included; in Model (4), an adjusted (R^2) is (28.73%), while it is (27.85%) in Model (3).

Model (3) shows two significant associations between ROA (the dependent variable) and both (FLVG) and (BINDP), at (1%) and (5%), respectively. (FLVG) has a substantial impact (0.001) at the level of (1%) on (ROA) with a positive coefficient of (0.097). While (SFRM) has a nonsignificant negative association with (ROA), other factors (BETA, BORD, and AGE) have nonsignificant positive associations with (ROA).

Model (4) in Table (8) demonstrates a statistically significant association at the level of (1%) between (ESG) performance and corporate financial performance with a positive coefficient of (0.645). Investors are keen to lend money to growing companies so they may start turning a profit right away (Koundouri, Pittis & Plataniotis, 2022; Naeem & ankaya, 2022). (ESG) has a positive impact on corporate ability to obtain capital and increases investors' trust in corporates in the growth stage, which is consistent with the findings of a previous study by (Gao, Li & Zou, 2023).

Our findings are in line with a number of earlier studies that found a positive association between ROA and ESG performance (Qiu,

Shaukat & Tharyan, 2016; Velte, 2017; Habib, 2022; Koundouri, Pittis, & Plataniotis., 2022; Naeem & Ankaya, 2022; Ademi & Klungseth, 2022; Habib & Mourad, 2023). Companies that do better in (ESG) are rewarded with superior performance indicators. In the current investigation, the second hypothesis **(H2)** is therefore accepted. The stakeholder theory, which maintains that the two factors are positively related, is supported by these findings. However, our findings differ from past research that discovered an adverse relationship between the two characteristics (Ho and Taylor, 2007; Lopez, Garcia, & Rodriguez, 2007; Taskin, 2015; Akben & Kiymaz, 2017; Atan, Alam, Said & Zamri, 2018; Buallay & Al Marri, 2022).

Table 8: HMR regression of ESG performance on bank financial performance

Coefficients					
Model 3	**Unstandardized Coefficients**		**Standardized Coefficients**		
	B	**Std. Error**	**Beta**	**t**	**Sig.**
(Constant)	2.896	1.765		1.641	0.102
FLVG	0.095	0.038	0.167	2.521	0.002
SFRM	-0.004	0.007	-0.036	-0.561	0.575
BETA	0.131	0.117	0.084	1.117	0.265
BORD	0.003	0.043	0.004	.061	0.951
BINDP	3.098	1.340	0.149	2.311	0.022
AGE	0.028	0.048	0.087	0.591	0.555
COUNT dummies	Yes				
YEAR dummies	Yes				
R^2	0.4587				
Adjusted R^2	0.2785				
F	11.556				
Sig	0.000				
Model 4					
	B	**Std. Error**	**Beta**	**t**	**Sig.**
(Constant)	1.727	1.935		0.892	0.373
ESG	0.645	0.442	0.091	1.458	0.004

FLVG	0.097	0.038	0.170	2.581	0.001
SFRM	-0.004	0.007	-0.038	-0.599	0.550
BETA	0.105	0.118	0.067	0.887	0.376
BORD	-0.002	0.043	-0.004	-0.053	0.958
BINDP	3.016	1.339	0.145	2.253	0.025
AGE	0.019	0.048	0.058	0.391	0.696
COUNT dummies	Yes				
YEAR dummies	Yes				
R^2	0.4966				
Adjusted R^2	0.2873				
F	16.575				
Sig	0.000				
a. Dependent Variable: CCOST					

6. Conclusions, Limitations, and Further Study

This study set out to ascertain how (ESG) performance affected capital costs and corporate financial performance. For the years from (2018) to (2022), the study used a sample of (53) commercial banks from (7) countries, yielding (265) bank-year observations overall. The study's findings show that (ESG) performance has a significant positive impact on financial performance while it has a substantial adverse association with the cost of capital. The study's main conclusion implies that financial institutions rewarded companies according to how well they managed their (ESG) performance. This compensation could have taken the form of lower lending institution borrowing costs or lower required rates of return for equity holders, depending on the situation.

Our findings demonstrate the complex relationship between (ESG) performance and implicit equity costs. As a result, future study may opt to analyze the relationship between sustainability and capital costs using specific item scorings for (ESG) performance. We will be able to draw stronger conclusions and develop better policy implications

as a result. Furthermore, it would be interesting to look into models that might more fully take into account the non-linear element, such as those that could account for the hypothetical existence (or lack) of some form of optimal point.

There are some limitations to the current investigation. For instance, (53) commercial banks from seven MENA nations were used in the study. Because the sample is small, it's possible that the results can't be generalized. The study needs to be expanded by being conducted with other nations. Although the current study solely uses commercial banks, it's possible that using Islamic banks will yield different results. If we had chosen to employ another statistical method in place of Hierarchical Multiple Regression, the findings of the current study might have been different. Additionally, the current study's usage of many control variables with various proxies may produce varying outcomes.

The outcomes of the current study have some implications for different parties. For example, they can be used to convince investors and/or regulators about the advantages of corporate sustainability transition, which has consequences for the development of long-term investment policies as well as the effectiveness of the regulatory framework.

Moreover, several avenues can be suggested for potential research, such as the relationship between (ESG) disclosure and stock return volatility or corporate governance mechanisms.

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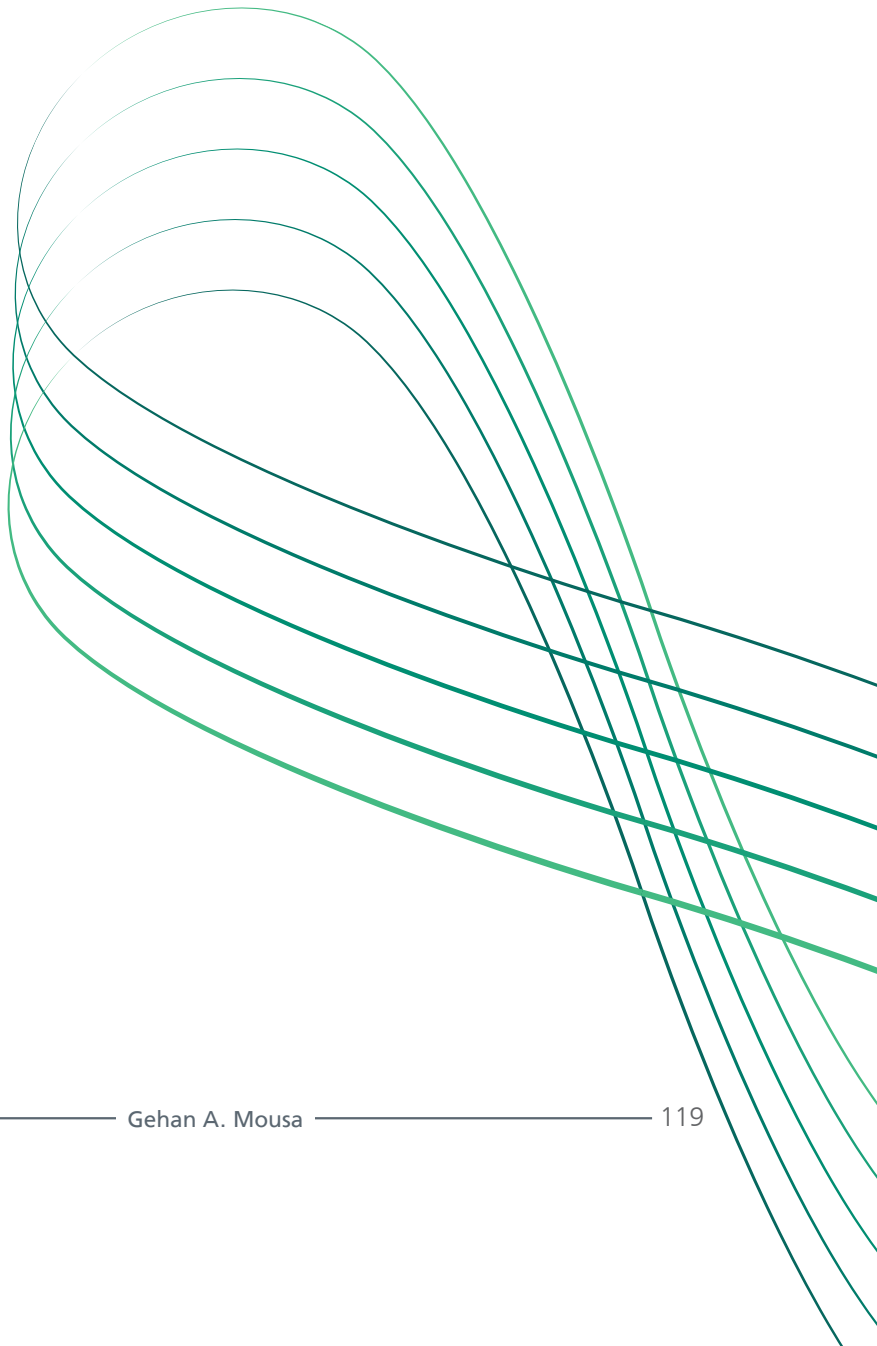
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