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Research paper

The Impact of Corporate Finance on Sustainability Dimensions in KSA

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Abstract

This research paper critically examines the interaction between financial structures and sustainability dimensions in banks in the Eastern Province of Saudi Arabia. The study posits that a bank's financial structure, specifically its mix of debt and equity financing, fundamentally determines its long-term sustainability. The study explores the various funding sources available to bank managers and the economic, environmental, and social sustainability dimensions. Using a descriptive analytical approach, the research collected data via questionnaires from administrators, economists, and accountants in Saudi banks and analysed them using partial least squares structural equation modelling (PLS-SEM). The empirical results reveal a different picture: equity financing positively impacts both economic and environmental and social sustainability. Conversely, debt financing positively impacts economic, environmental, and social sustainability. These insights provide valuable guidance for bank managers, enabling them to make informed financing decisions that optimize resource allocation and enhance the long-term success of banks in the unique Saudi context.

Keywords: *Equity Financing; Debt Financing; Economic Sustainability; Environmental Sustainability; Social Sustainability.*

1. Introduction

Business financing strategies are increasingly intertwined with environmental sustainability, social responsibility, and economic viability, forming a complex link that influences long-term sustainable development. These strategies dictate not only the financial health of a company but also shape its ethical landscape and its ecological impact, leading to beneficial and harmful results.

An important argument is that effective business financing strategies can strengthen a company's commitment to sustainability. By integrating environmental, social, and governance (ESG) factors into their financial practices, companies can have a competitive advantage (Kocmanová et al., 2016). This synergy is particularly obvious in the reshaping of business disclosure thanks to a multi-criteria analysis approach, which emphasizes the measures ESG (Zopounidis et al., 2020). Companies that adopt such executives often see improved economic performance because sustainability is linked to brand loyalty and reduced operational costs (Taliento et al., 2019). For example, many companies have reported a "sustainability advantage" by which those who have robust ESG practices surpass their peers in financial measures (Sideri, 2023).

However, the implementation of these business financing strategies is not without challenges. The relationship between ESG initiatives and financial performance is nuanced, revealing that not all strategies give positive results. SILA and CEK (2017) demonstrate the variability in the impact of ESG dimensions on economic performance, which suggests that companies must navigate carefully to their durability investments to avoid financial traps. In addition, the context in which a company operates considerably shapes the result of these strategies, stressing that institutional environments can promote or hinder effective ESG practices (Ortas et al., 2015).

In addition, the boom in green finance illustrates the potential of business financing strategies to align with sustainable entrepreneurship. As Sadiq et al. (2022) note, green financing initiatives during crises such as the COVID-19 pandemic have propelled businesses to more environmentally friendly practices. This development reflects an evolution towards the recognition of the intrinsic value of sustainability in obtaining long-term profitability, thus supporting the case of integration of financial priorities and ESG.

In particular, the influence of social responsibility on economic viability is also an essential aspect of business financing. Coelho, Jayantilal, and Ferreira (2023) claim this link by a systematic examination, stressing that socially responsible companies tend to obtain higher financial results. This supports the idea that consumer perception is increasingly based on the commitment of a company to social values, which can stimulate better selling and investment opportunities Abdelraheem et al, 2025).

However, the potential negative impacts of business financing strategies on effective sustainability measures cannot be overlooked. There is a concern that corporate social responsibility (CSR) can sometimes serve as a facade, allowing companies to engage in "greenwashing" while not implementing substantial changes (Giannarakis, Konteos, and Sarindidis, 2014). This dissonance can lead to public skepticism and reputation damage, thwarting the economic benefits drawn from initial CSR efforts.

Above all, literature reflects a critical vision of the governance of sustainability practices. The effectiveness of governance structures plays an essential role in the mediation of the relationship between finance and ESG results. Husted and Sousa-Filho (2017) suggest that companies with robust sustainability governance are better placed to improve their ESG performance, allowing a more coherent alignment between financial success and responsible driving of companies.
In addition, the regional dimension of business financing strategies offers essential information on their implications. As noted by Duque-Grisales and Aguilera-Caracuel (2021), geographic diversification and financial relaxation can moderate the relationship between ESG scores and financial performance, which indicates that external market conditions considerably influence the effectiveness of business sustainability efforts.
In conclusion, companies' financing strategies show a deep influence on environmental sustainability, social responsibility, and economic viability, with implications for long-term sustainable development. Although the intersection of these elements can offer substantial advantages, it requires a cautious and aware approach to the context to ensure that initiatives are truly integrated rather than superficially implemented. Future research should continue to explore this complex relationship, focusing on refining strategies that align financial objectives with sustainable practices and ethical governance.

2. Institutional Background

2.1. Analyzing the environmental, economic, and social dimensions of sustainability in Saudi Arabia's

The dimensions of sustainability in Saudi Arabia represent a complex interaction of environmental, economic, and social factors, which significantly influence the long-term development strategies of the nation. Environmental sustainability is a focus, particularly in the field of Vision 2030, aimed at reducing oil addiction and promoting renewable energy sources (Alshuwaikhat and Mohammed, 2017). Recent studies highlight the effective performance of the initiatives on the green economy, which are fundamental to achieving the objectives of sustainable development (Chaaben et al., 2024). In addition, entrepreneurial activities in sustainable sectors are basically supported by the government, reflecting a commitment to promote a carbon circular economy (Yusuf & Lytras, 2023).
Economic sustainability remains fundamental, as exemplified by policies that promote economic diversification away from oil revenue (Al-Torkistani et al., 2016), Babiker et al (2025). The role of education in guiding sustainable development cannot be overrated, as it cultivates a workforce equipped for emerging sectors (Singh et al., 2022). In addition, the improvement of sustainable entrepreneurship is vital for economic resilience, ensuring that innovation thrives in the private sector (Alfalih, 2022; Sulfey & Alkahtani, 2017).
Social sustainability also plays a fundamental role, in which inclusiveness is essential, particularly the empowerment of women in environmental initiatives (ALDOSARI, 2024). The efforts to integrate women into sustainable practices have shown promising results in urban areas such as Riyadh (Abdelwahed et al., 2022). In addition, addressing cultural challenges and institutional barriers is an integral part of the promotion of social entrepreneurship in the Saudi context (Alwakid et al., 2021; Alqahtany & Aravindakhan, 2022).
Overall, the multidimensional aspects of sustainability in Saudi Arabia - influenced by environmental, economic, and social policies - are fundamental for the realization of the success of sustainable development strategies that align with Vision 2030 (Salman, 2024; Aljarallah & Lock, 2018).

2.2. Corporate finance in KSA

Business financing practices in Saudi Arabia have evolved considerably, driven by regulatory changes, market dynamics, and the critical influence of petroleum income. The introduction of Vision 2030 marked a central change, emphasizing diversification far from oil dependence and the improvement of corporate governance (Alregab, 2023). With this initiative, reforms aimed at attracting foreign investments and improving corporate governance mechanisms have grown, which has a direct impact on business performance (Boshnak et al., 2023; Alabdullah, 2023). In addition, the adoption of International Financial Information Standards (IFRS) has favored better financial transparency, contributing to better investment efficiency and business financial performance (Alruwaili et al., 2023).
In addition, the important role of oil income in the training of financial strategies was underlined by the need for Saudi companies to adopt practices that guarantee sustainability and economic resilience in a changing market (Vinodkumar and Alarifi, 2022; Montambault Trudelle, 2023). The market dynamics, characterized by the challenges posed by global economic uncertainties and the COVID-19 pandemic, required a reassessment of financial strategies among Saudi companies (Alabdullah, 2023; Alharbi, 2023). The pressure for corporate social responsibility has gained ground in the context of sustainable finance and investment, reflecting a growing consciousness of stakeholders (Bansal et al., 2023; Yusuf & Lytras, 2023).
In addition, the integration of artificial intelligence in finance and the rise in fintech solutions have transformed the way in which companies approach financial management, presenting both opportunities and challenges (al-Baity, 2023; Chen et al., 2023). While Saudi Arabia continues to navigate these complex dynamics, a strong emphasis on corporate governance, risk management, and sustainability reports will remain essential to promote robust economic growth (Ebaid, 2023; Qasem et al., 2023; Al-Faryan and Alokla, 2023). Overall, the evolution of business financing practices in Saudi Arabia reflects a broader transition to a more sustainable and diverse economic model.

3. Theoretical Foundation

3.1. capital theory

The impact of the theory of capital structure on business financing decisions is deep, particularly in the exploration of compromises between debt and the financing of actions in the maximization of the value of the company and the minimization of the cost of capital. Classic theories, such as Modigliani-Miller's theorem, suggest that under perfect market conditions, the capital structure is not relevant for the value of the company (Brusov & Filatova, 2023). However, empirical studies have indicated that real friction, such as taxes and bankruptcy costs, choose the structure of critical capital (Ardalan, 2017; Kruk, 2021).
Debt financing is often preferred due to the tax advantages it offers, because payments of interest are tax-deductible, thus reducing the overall cost of capital (Damodaran, 2014). However, excessive dependence on debt can lead to a higher financial risk, potentially compromising the position of the company's market and increasing the cost of capital if solvency concerns occur (Vernimmen, Quiry, and Le Fur, 2022). Funding by shares, while diluting ownership, has a lower financial risk, thus promoting a more stable business environment, although it can be perceived as a distress signal when companies choose to issue new equity (Miglo, 2025; Hikal et al, 2025 A).

The relationship between capital structure and business performance has been explored in various empirical contexts. For example, Hirdinis (2019) stresses that the size of the company influences the advantages derived from different capital structures, accounting for profitability as a moderating variable. Likewise, Alipur, Mohammadi, and Derakhshan (2015) provide evidence of Iranian companies, claiming that capital structure decisions are influenced by the characteristics and conditions of the market of a company, highlighting the need for analyses specific to the context.

Mujahid and Akhtar (2014) also claim the implications of capital structure choices on the wealth of shareholders, in the textile sector of Pakistan. Their results strengthen the concept that a balanced approach to financing decisions can considerably improve the value of the company. This nuanced understanding of the dynamics of the capital structure requires a careful assessment of compromises by business directors, who must assess the simultaneous impact on the value of companies and the cost of capital (Ross, 2015).

In conclusion, the literature reveals that the theory of capital structure not only informs business financing decisions but also highlights the complex balance that companies must maintain in their financing strategies to optimize the value of companies while managing the associated risks.

3.2. Agency theory

Agency theory has significant implications for corporate finances, particularly in understanding the conflicts that arise between managers and shareholders. These conflicts are mainly resulting from the divergent interests of managers (agents) and shareholders (directors), where managers can prioritize personal benefits over maximizing company value, leading to agency costs (Panda & Leepsa, 2017). This misalignment of interests can result in decisions below the ideal that do not reflect the best interests of shareholders, highlighting the need for effective governance mechanisms to mitigate these conflicts (Tekin & Polat, 2020).

Governance mechanisms play a critical role in the treatment of agency conflict. According to Kasbar et al. (2023), the effectiveness of corporate governance structures is fundamental in reducing agency costs and increasing the company's financial performance. This perspective aligns with Bendickson et al. (2016), who emphasize that evolving governance standards can adapt to change in organizational dynamics, facilitating better alignment between managers' actions and shareholder interests. Establishment of independent advice, strict supervision, and transparent reports is recommended essential strategy to improve responsibility and reduce information asymmetries (RASHID, 2015).

In addition, Bosse and Phillips (2016) introduce the concept of limited self-interest, proposing that the limitations of rationality influence management decisions in ways that do not always align with the maximization of shareholder wealth. This emphasizes the need for governance mechanisms that explain these limitations. By promoting an accountability and ethical decision-making culture, organizations can better align management behavior with shareholder interests (Goshen & Squire, 2017).

Finally, strategies such as performance-based compensation and shareholder engagement initiatives can further align interests and encourage managers to act in a way to maximize the company's value Alaskar et al, 2025). Turnbull (2019) argues that the integration of the perspectives of stakeholders in corporate governance structures can create synergies that increase company performance. As evidenced by Kyere and Austuses (2021), companies that effectively implement governance and interest mechanisms tend to experience enhanced financial results, highlighting empirical support for agency theory in managers and shareholder conflict navigation. This literature reveals the importance of addressing agency conflicts through coherent governance strategies to improve shareholders' value and improve overall corporate performance.

3.3. Stakeholder theory

Stakeholder theory plays a crucial role in training business financing decisions and sustainability practices, in particular when companies sail in the delicate balance between maximizing profits and social responsibility. Jan et al. (2022) argue that the integration of sustainability practices in Islamic corporate governance improves business performance by aligning the interests of the stakeholders. This notion is reproduced by Waheed and Zhang (2022), who underline that corporate social responsibility (CSR) and ethical practices contribute considerably to sustainable competitive performance in emerging markets, strengthening the concept that profitability and ethical considerations are not mutually exclusive.

In addition, the integration of environmental, social, and governance (ESG) disclosure with green funding improves business performance and stakeholder satisfaction (Habib et al., 2025). This underlines the idea that the robust commitment of stakeholders can lead to more favorable financial results while promoting sustainability objectives. Schaltegger, Hörisch, and Freeman (2019) have developed this more by presenting profitability analyses for sustainability, which illustrate how the commitment of different groups of stakeholders creates value not only economic but also social and environmental.

The framework provided by Jones, Harrison, and Felps (2018) suggests that the application of the instrumental theory of stakeholders can allow companies to obtain a sustainable competitive advantage by aligning their commercial strategy with the expectations of stakeholders. Hörisch, Freeman, and Schaltegger (2014) contribute to this understanding by offering a conceptual framework that links the theory of stakeholders to sustainability, emphasizing interconnections and common objectives among the various stakeholders.

Business financing practices must also adapt to these evolving paradigms, as illustrated by Vernimmen, Quiry, and Le Fur (2022), who claim that traditional financial theories are increasingly integrating the concerns of stakeholders. Harrison, Freeman, and Abreu (2015) argue that stakeholder theory serves as an ethical basis for effective management, illustrating that companies can operate in a framework that favors both profit and societal well-being. Freudenreich, Lüdeke-Freund, and Schaltegger (2020) extend this perspective by discussing how commercial models can be designed to create a value for sustainability, highlighting the essential link between the creation of stakeholders and business strategy. Finally, a synthesis of literature by Alshehhi, Nobanee, and Khare (2018) indicates that sustainability practices have a positive impact on the financial performance of companies, which suggests that modern commercial executives can indeed reconcile the maximization of profits with social responsibility Hikal et al, 2025).

4. Literature Review and Hypotheses Development

The intersection of corporate finances and sustainability dimensions has become increasingly prominent in the current business environment, where the integration of environmentally sustainable practices in financial strategies can promote not only long-term profitability but also social responsibility. The analysis of these intersections reveals that corporate finances must evolve from traditional models driven by profits to adopt sustainability as a cornerstone for strategic decision-making.

Financial strategies can incorporate environmental practices by emphasizing corporate social responsibility initiatives (CSR). The research indicates that companies that participate in CSR often experience improved corporate financial performance (Esteban-Sanchez et al., 2017; Landi and Sciarelli, 2019). This alignment facilitates access to finance, since interested parties increasingly favor companies committed to sustainability (Cheng et al., 2014). By capturing synergy between CSR and financial results, companies can establish a competitive advantage in their markets.

In addition, the role of environmental, social, and governance qualifications (ESG) to influence the performance of corporate finances has attracted substantial attention. Studies such as Kim and Li (2021) show that POSITIVE Practices of ESG are correlated with improved financial metrics, which emphasizes that the integration of sustainability in financial strategies can generate profitable yields. On the contrary, the negative performance of ESE can increase vulnerability to risks, which impacts the financial health and valuation of the company (Hoepner et al., 2016). As a result, the sustainability profile of a company looks more and more as a critical component of its general financial strategy.

Literature emphasizes even more the media effects of innovative practices in the sustainability-reference relationship. For example, Chouibi, Chouibi, and Rossi (2022) Abdelraheem et al (2024 A)found that green innovation serves as a fundamental mediator, improving the link between ESG initiatives and corporate financial performance. This innovation not only reduces costs but can also lead to new sources of income, reinforcing the idea that sustainability can be a driving force in financial success (Wang and Sarkis, 2017).

In addition, corporate financial performance is significantly influenced by regional contexts, as observed by Manrique and Martí-Wallester (2017), who analyzed the effects of environmental performance on developed and developing nations. Their findings suggest variations in how sustainability efforts are translated into financial results, underlining the importance of considering geographical and sectoral factors by designing sustainability strategies. This aspect of location is particularly vital for SMEs, where Bartolacci, Caputo, and Soverchia (2020) argue that sustainability can distinguish a small business in competitive markets, thus improving financial viability.

To improve the corporate finance framework with sustainability perspectives, strategic considerations are essential. Baumgartner and Rauter (2017) advocate a strategic approach to sustainability management, arguing that it must be integrated into the central operations of the organization, instead of being treated as an auxiliary problem. This integration ensures that sustainability practices are not simply complementary, but that they report general financial strategies Abdelraheem, et al (2024 B).

The creation of a sustainable organization requires a robust framework that aligns financial performance metrics with sustainability objectives (Rezaee, 2016). The intersection between strategic financial management and sustainable practices encourages a holistic approach where profitability does not exceed ethical considerations. This framework supports the belief that the long-term economic benefits are inseparable from environmental administration.

The empirical panorama provides valuable information about the profitability of investments centered on sustainability. Weston and Nnadi (2023) illustrate how the strategic and financial variables related to ESG policies significantly improve the general performance of corporate finance. This finding resonates in several industries, emphasizing that the financial strategies that incorporate sustainability can effectively create the value of shareholders while addressing pressing social problems.

In conclusion, the intersection of finance and corporate sustainability offers an evolutionary perspective that advocates the integration of environmental practices within financial strategies. This integration not only promotes long-term profitability but also aligns with the growing corporate social responsibility. Literature supports the idea that sustainable practices, when aligned with financial objectives, not only benefit corporations, but also contribute to broader social advances, facilitating a transition towards a more responsible and profitable corporate framework (Alshehhi et al., 2018; Grewatsch and Kleindienst, 2017; Tien et al., 2020; Alkaraan et al, 2022). Therefore, creating an effective strategy at this intersection is vital for future corporate success.

4.1. Equity financing and economic sustainability

The financing of actions plays a crucial role in conducting economic sustainability, promoting business growth, social responsibility, and environmental protection. When companies choose stock financing, they usually have access to a wider range of capital that can improve their productive abilities and innovative potential. For example, Ihemeje et al. (2020) describe a model of stock financing that improves business productivity in Nigeria, illustrating a direct connection between financing strategies and sustainable economic results.

In addition, sustainable financial solutions enable small and medium-sized businesses to align financial practices with long-term sustainability goals, promoting growth (Kato, Chiloane-Tsoka, and Mugambe, 2024). Such financing options also allow companies to invest in green technologies, ensuring that environmental considerations remain central to their operational decisions. SADIQ et al. (2022) emphasize the meaning of green finances in the promotion of sustainable entrepreneurship, especially in challenging times, such as Covid-19 pandemic, facilitating initiatives of corporate social responsibility.

The relationship between financial performance and sustainable growth is evident in several sectors, as shown in the Korean manufacturing sector. According to XU and Wang (2018), intellectual capital linked to appropriate financing approaches can significantly improve companies' sustainability goals. As companies become increasingly aware of their environmental impact, access to stock financing can direct investments to renewable energy projects, as he et al. (2019) illustrate the efficiency of such investments.

In addition, the search for corporate green innovation is directly influenced by the funding of structures. Xiang, Liu, and Yang (2022) argue that companies actively seek funding for green initiatives tend to integrate sustainability goals into their main business strategies. This is fundamental in the light of the Rachmad structure (2025), which postulates ethical investment as a cornerstone of responsible economic growth.

In developing economies, digitization, along with Green Investments, forms a strategic path towards economic sustainability (Hung, 2023). The empirical evidence provided by GAO et al. (2023) indicates a positive correlation between the adoption of e -commerce and the enhanced performance of sustainability in micro, small and medium enterprises, reinforcing the need for financial innovation.

In addition, commitments to environmental, social, and governance (ESG) principles have become vital to companies, as highlighted by Tan and Zhu (2022). This change demonstrates that access to stock financing not only supports economic growth but also improves corporate responsibility. Finally, the interaction between stock financing and sustainable development objectives is encapsulated in Sachs et al. (2019), which advocates greater emphasis on green finances to achieve broader objectives of economic sustainability in different sectors.

This study presents the first hypothesis based on the theoretical explanations we discussed above:

H1: Equity financing impacts economic sustainability.

4.2. Equity financing and environmental sustainability

Funding by shares serves as a pivotal mechanism to stimulate environmental sustainability initiatives, allowing companies to access essential resources for the implementation of green projects. Novoselov et al. (2018) argue that stock funding provides a structured approach for the implementation of environmental investment projects, allowing companies to align their financial strategies with sustainability objectives. This is particularly relevant in the context of small and medium-sized enterprises (SMEs), where traditional financing options can be limited. Ihemeje et al. (2020) present a joint-stock financing model that facilitates sustainable development in Nigerian companies, presenting its potential to improve productivity while responding to environmental concerns Hussaien, et al (2021).

However, the path to take advantage of joint-stock funding for sustainability is heavy with challenges. OGUNYERIE and ISHOLA (2024) point out that many American SMEs are fighting against financial constraints when they try to integrate sustainable practices. Investors often perceive environmental projects as high-risk efforts, leading to hesitation in capital allowance (Sadiq et al., 2022). The difference in the financing of climate initiatives is examined in more detail by Clark et al. (2018), who discuss traps and progress in securing private finances for sustainable development, highlighting the need for innovative financial solutions.

Potential solutions to overcome these obstacles include the adoption of green financing strategies and regulatory measures that encourage sustainable practices. Taghizadeh-Hesary and Yoshino (2020) suggest that innovative financing mechanisms, such as green bonds, can improve investments in renewable energy projects, thus filling the financing gap. Ning et al. (2023) also point out that green obligations contribute not only to investment in energy efficiency but also stimulate economic growth, aligning several durability objectives.

In addition, Lee (2020) illustrates the link between green finance and the achievement of sustainable development objectives in the context of China, highlighting the pivotal role of political executives in the promotion of responsible investments. Xu et al. (2022) contribute to this discourse by studying how environmental regulations in China can stimulate the development of green finance, indicating that regulatory support can create a favourable environment for sustainable investments.

Finally, it is essential to assess the impact of existing challenges in the landscape of green finance. Ozili (2022) reviews the global literature on green finances, highlighting the obstacles that hinder progress, while Falcone (2020) discusses the importance of environmental regulations in carrying out green investments. By taking up these challenges through complete strategies, finance by joint -stockings can effectively help companies achieve their durability objectives, promoting a greener future for all. The study presents the second hypothesis based on the theoretical interpretations we discussed above:

H2: Equity financing impacts Environmental sustainability.

4.3. Equity financing and social sustainability

Funding by shares has become a pivotal tool to promote social sustainability in the context of the empowerment of social enterprises and the promotion of community progress. Investment strategies that prioritize social equity can stimulate sustainable commercial practices and improve community value. Research indicates that the financing of actions is essential for social enterprises, because it provides them with the capital necessary to innovate and extend their impact (Reiser and Tucker, 2023). This form of financing is particularly crucial in market development, where access to traditional funding sources is limited (Sarabdeen et al., 2025).

The role of social financing in the promotion of equity cannot be overestimated. By aligning financial incentives with social results, investment strategies can facilitate the creation of shared value, thus filling in social capital gaps (Sarabdeen et al., 2025). This is particularly obvious in small and medium -sized enterprises (SMEs) which often find it difficult to balance the profitability of social responsibility (Raheem et al., 2023). In addition, an inclusive impact investment framework can optimize profitability and sustainability while improving the social impact (ISIBOR et al., 2025).

The crowdfunding of actions has proven promising in conducting social and environmental benefits, as evidenced by recent studies. Carè, Carè, and Fatima (2025) illustrate how the crowdfunding of equity can generate positive results for social enterprises by attracting investments that favor societal advantages. The integration of environmental, social, and governance factors (ESG) in the investment decision - making processes is crucial to promote sustainable practices. Research suggests that companies excelling in ESG performance can improve financial results (Nizam et al., 2019; Chen et al., 2023).

In addition, the concept of corporate social responsibility (CSR) is vital because it improves not only the reputation of a company but is also in correlation with better financial performance (Okafor et al., 2021). Companies that effectively integrate social sustainability into their basic strategies are likely to experience increased competitiveness (Chuang and Huang, 2018). The advantages of ESG disclosure extend to reducing the cost of financing debt, further emphasizing the financial viability of socially responsible investments (Raimo et al., 2021).

Overall, the interaction between joint-stock financing and social sustainability illustrates a path to achieve social equity while promoting sustainable commercial practices. Key information from various studies highlights the need for companies to integrate social and environmental considerations in their operational executives, ensuring that their growth contributes to community advancement (Ajmal et al., 2018; Epstein, 2018; Vismara, 2019). While companies are increasingly adopting these approaches, the potential to promote fair and sustainable growth is becoming more and more feasible. The study presents the third hypothesis grounded in the theoretical interpretations discussed above:

H3: Equity financing impacts social sustainability.

4.4. Debt financing and economic sustainability

Debt financing plays a crucial role in the formation of economic sustainability, particularly in developing countries. It can serve as a means of promoting growth and development, but it is essential to analyze its benefits and risks. A main advantage of debt financing is its potential to stimulate economic growth. For example, research shows that foreign debt can promote growth in various developing regions, including southern Asia (Mohsin et al., 2021). This supports the idea that carefully managed debt can provide necessary capital for investment in infrastructure and social services, supporting sustainable development (Ismael et al., 2024).

However, excessive debt dependence can lead to financial instability and economic vulnerability, increasing significant risks. The negative impact of unsustainable debt levels is documented in studies that observe their direct correlation with economic growth in sub-Saharan Africa (Senadza et al., 2017). Clearly, the balance between taking advantage of the benefits of debt financing and mitigating risks is delicate and requires informed debt management strategies. For example, countries such as Nigeria have implemented various external debt management strategies that demonstrate an adverse impact on major economic indices (Onyekwelu et al., 2014).

In addition, the integration of sustainability characteristics with debt financing can reduce costs and support long-term goals. Hoepner et al. (2016) suggest that sustainable practices can reduce the cost of debt to companies and countries, promoting a healthier economic environment. The strategies that incorporate green credit policies reflect initiatives designed to balance growth and environmental concerns (XU & LI, 2020).
In conclusion, although debt financing can boost economic growth in developing countries, associated risks require prudent management practices. As such, the promotion of long-term financial health requires the development of strategies that reinforce debt sustainability and adopt balanced approaches for future economic resilience (Mustapha & Prizzon, 2015; Lau et al., 2022; Chindengwike, 2022; Chaudhry et al., 2017). The study presents the fourth hypothesis based on the theoretical interpretations we discussed above:
H4: Debt financing impacts economic sustainability.

4.5. Debt financing and environmental sustainability

Borrowing financing has become a central mechanism to promote environmental sustainability, thanks to innovative approaches such as green obligations and green credit policies. Various researchers say that the integration of environmental protection indicators into debt financing can improve the effectiveness of sustainability initiatives (Ren et al., 2022). For highly polluting companies, access to green credit improves investments in environmental protection, thus facilitating their transition to sustainable operations (JI, JIA, and Yan, 2021). The implications of debt financing for environmental projects are substantial. As Xu and Li illustrate (2020), maturity and the cost of debt can vary considerably based on political support for environmentally friendly initiatives, which highlights the need for targeted regulations to optimize financing structures. Green bonds have specifically been assigned to positive impacts on project profitability and credit quality, allowing funds to be directed to sustainable companies without sacrificing financial performance (Alonso-Conde and Rojo-Suárez, 2020). Despite these advantages, challenges remain. Shi et al. (2022) provide evidence that green financial policies do not uniformly reduce debt financing costs for all businesses, particularly by stressing the disparities among heavy polluters. This inconsistency requires a robust framework to ensure fair access to financing in different sectors seeking to improve their environmental sustainability (Li, Cui, and Zheng, 2022).
In addition, the alignment of green financing solutions with renewable energy projects is essential to achieve long-term sustainability objectives (Taghizadeh-Hesary and Yoshino, 2020). The role of these financing mechanisms extends beyond simple capital; They actively shape the strategies of companies towards the drop in environmental degradation, especially in emerging economies (Chin et al., 2024). In the end, as Jian (2023) notes, innovative financing mechanisms are essential to promote a sustainable environment, stressing that debt financing can contribute to ecological well-being when effectively structured and regulated. Based on the previous theoretical interpretations, the study tests the following fifth hypothesis:
H5: Debt financing impacts Environmental Sustainability.

4.6. Debt financing and social sustainability

The relationship between debt financing practices and social sustainability is increasingly vital because organizations seek to promote fair growth and community well-being while responding to environmental concerns. Financial strategies that integrate social responsibility can considerably improve the social performance of companies, which is linked to a lower debt cost (Magnanelli and Izzo, 2017). By aligning the financing of debt with corporate social responsibility initiatives (CSR), companies can attract investors who prioritize ethical considerations, thus strengthening sustainable practices (Hamrouni, Boussaada and Toumi, 2019).
In addition, financing social programs through debt can stimulate regional development, targeting fair growth and social inclusion (Lysiak, Kachula, Hrabchuk, and Ziuzin, 2021). This approach is reproduced by Simatele and Dlamini (2020), which argue that financial executives should be designed to meet social missions, contributing to sustainability. Reinforcing this concept further, Mellor (2015) discusses the role of public money in promoting sustainability and social justice, stressing that strategic debt funding can mitigate environmental deterioration while promoting economic resilience.
From the point of view of Islamic finance, Tahiri Jouti (2019) highlights an integrated approach to develop sustainable financing ecosystems, presenting that alternative debt structures can promote social objectives. Rizzi, Pellegrini, and Battaglia (2018) also illustrate emerging strategies in social finance which support ecological and socially impactful projects, highlighting a growing trend in responsible investment.
Finally, the results of Hoepner et al. (2016) and Alsayegh, Abdul Rahman, and Homayoun (2020) indicate that companies with sustainability characteristics tend to undergo favorable financing conditions. This relationship stresses that transparent ESG disclosure (environment, social, and governance) improve business performance, attracting the capital of strategically aligned debt on social and environmental objectives (Hou, 2019). Together, these studies illustrate the crucial interaction between debt financing practices and social sustainability, ultimately arguing for a more equitable, responsible, and environmentally financial landscape.
This study presents the sixth and final hypothesis based on the theoretical explanations we discussed above:
H6: Debt financing impacts Social Sustainability.

5. Methodology

This study investigated the influence of long-term financing on sustainability dimensions within the banking sector of Saudi Arabia's Eastern Province. To achieve this, a random sample of 200 professionals, comprising economists, administrators, and accountants, was meticulously selected from three prominent banks: Al Rajhi Bank, Al Ahli Bank, and Riyadh Bank. The sample size was rigorously determined using the Stephen Thompson formula (Thomson, 1992), yielding an impressive 90% response rate. Data collection was executed through a comprehensive questionnaire, which employed a five-point Likert scale ranging from "strongly agree" to "strongly disagree" and was specifically designed to thoroughly assess all pertinent research dimensions. As a common quantitative instrument for gauging behavioural and psychological attitudes and sometimes modified to encourage definitive positions (Joshi et al., 2015), the choice of Likert scale facilitated a nuanced understanding of participant perspectives.

6. Data Analysis and Findings

6.1. Measurement validity, reliability, and discriminant validity

The initial critical step in structural equation modelling using partial least squares (PLS-SEM) involves carefully assessing the reliability and validity of the measurement model, along with establishing discriminant validity. Reliability is primarily measured by examining the indicator loadings, which should exceed 0.70, and the average variance extracted (AVE), which should exceed 0.50, both of which confirm the internal consistency of the constructs. As can be seen, all model indicator loadings were above 0.70, and AVE values exceeded 0.50, indicating high reliability. Furthermore, validity is assessed through Cronbach's alpha (CA) and composite reliability (CR), both of which are ideally above 0.70 to indicate adequate internal consistency. With the reported CA and CR values also exceeding 0.70, Table 1 and Figure 1 demonstrate strong validity, collectively ensuring a high-quality measurement model as a solid foundation for subsequent structural model analysis.

Discriminant validity stands as a crucial pillar of construct validity, ensuring that a measurement tool genuinely assesses a unique construct, distinct from other conceptually related ones, thereby preventing excessive theoretical overlap. This critical element is typically established through a meticulous examination of the correlation coefficients among the study variables. A strong indication of discriminant validity becomes evident when a variable's correlation with itself—often reflected in measures of internal consistency or test-retest reliability—is substantially higher than its correlations with any other variables within the model. This distinct pattern confirms that the variable indeed measures a unique and independent construct, rather than merely sharing variance with other constructs (Cheung et al., 2023; Sürücü & Maslakci, 2020). For instance, as demonstrated in Table 4, the self-correlation of each variable significantly exceeded its correlations with other variables, thereby affirming the model's robust discriminant validity.

Table 1: Reliability and Validity

	Items	Loading	Cronbach's Alpha (CA)	Composite Reliability (CR)	Average Variance Extracted (AVE)
Equity Financing	EF1	0.886	0.877	0.915	0.731
	EF2	0.894			
	EF3	0.848			
	EF4	0.787			
Debt Financing	DF1	0.961	0.947	0.962	0.864
	DF2	0.892			
	DF3	0.915			
	DF4	0.948			
Economic Sustainability	ECS1	0.911	0.777	0.856	0.603
	ECS2	0.794			
	ECS3	0.780			
	ECS4	0.585			
Environmental Sustainability	ES1	0.949	0.908	0.935	0.784
	ES2	0.875			
	ES3	0.936			
	ES4	0.772			
Social Sustainability	SS1	0.945	0.933	0.953	0.834
	SS2	0.903			
	SS3	0.894			
	SS4	0.910			

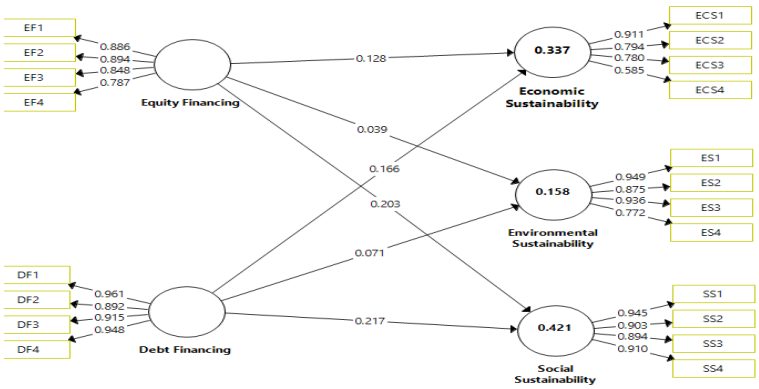

Fig. 1: Validity, Reliability and Structural Model Assessment.

Table 2: Discriminant Validity

	Debt Financing	Economic Sustainability	Environmental Sustainability	Equity Financing	Social Sustainability
Debt Financing	0.929				
Economic Sustainability	0.503	0.776			
Environmental Sustainability	0.354	-0.059	0.886		
Equity Financing	0.424	0.477	0.314	0.855	
Social Sustainability	0.551	0.213	0.598	0.544	0.913

6.2. Structural model assessment

In the field of structural equation modelling (SEM), a careful evaluation of the structural model is crucial to assess the validity of the hypothesized relationships between latent variables and their explanatory power. This critical evaluation relies largely on two

complementary measures: the coefficient of determination (R^2) and the effect size (f^2). The coefficient of determination, R^2, serves as a key indicator, measuring the proportion of variance in an endogenous latent variable that is explained by its predictor variables within the model. A higher R^2 value indicates greater explanatory power, reflecting a more robust model. R^2 values, interpreted on a scale of zero to one, are typically classified as: a value of 0.67 or greater indicates strong explanatory power, values between 0.33 and 0.67 indicate a moderate effect, and values between 0.19 and 0.33 are considered weak (Lin et al., 2020). Effect size, f^2, complements the R^2 coefficient and provides a detailed understanding by quantifying the relative contribution of each predictor variable to the variance of the endogenous latent variable. This measure is crucial for distinguishing the substantive importance of identified relationships, going beyond purely statistical significance to measure their practical relevance. Together, R^2 and f^2 provide a comprehensive framework for assessing the overall explanatory power of a structural model and the specific impact of its component paths (Hair et al., 2019). Applying these measures to a specific analysis, the R^2 coefficient for economic sustainability was found to be 0.337, which falls within the "weak" to "moderate" range, indicating a modest amount of explained variance. In contrast, the R^2 for environmental sustainability was 0.158, indicating relatively weaker explanatory power, and the R^2 coefficient for social sustainability was 0.421, indicating stronger explanatory power. Specifically, Table 3 illustrates these results.

Table 3: R Square

	R Square
Economic Sustainability	0.337
Environmental Sustainability	0.158
Social Sustainability	0.421

Effect size, denoted F^2, is a fundamental measure in statistical analysis that quantifies the influence of an independent variable on a dependent variable. This standardized measure allows researchers to gauge the practical significance of a result, beyond mere statistical significance. Established guidelines interpret F^2 values, with large effects ($F^2 \geq 0.35$) indicating a large effect of the independent variable; medium effects ($0.15 \leq F^2 < 0.35$) indicating a significant but non-predominant effect; small effects ($0.02 \leq F^2 < 0.15$) indicating a weaker but potentially significant effect; and very small or negligible effects ($F^2 \leq 0.02$) indicating that the independent variable has little practical effect. In the context of the data presented in Table 4 and Figure 1, property rights have a medium impact on social sustainability, at 0.203, and a weak impact on economic and environmental sustainability, at 0.128 and 0.039, respectively. Long-term loans have a medium impact on economic and social sustainability, at 0.166 and 0.217, and a weak impact on environmental sustainability, at 0.071.

Table 4: F Square

	Economic Sustainability	Environmental Sustainability	Social Sustainability
Debt Financing	0.166	0.071	0.217
Equity Financing	0.128	0.039	0.203

Table 5: Partial Least Squares Structural Equation Modeling (PLS-SEM) Results

Path	Original Sample (O)	T Values	P Values	Results
Debt Financing -> Economic Sustainability	0.366	5.456	0.000	Accepted
Debt Financing -> Environmental Sustainability	0.270	3.306	0.001	Accepted
Debt Financing -> Social Sustainability	0.391	7.147	0.000	Accepted
Equity Financing -> Economic Sustainability	0.322	4.262	0.000	Accepted
Equity Financing -> Environmental Sustainability	0.200	2.502	0.013	Accepted
Equity Financing -> Social Sustainability	0.378	7.172	0.000	Accepted

6.3. Hypothesis test

Partial least squares structural equation modelling (PLS-SEM), as highlighted by Purwanto (2021) and Guenther et al. (2023), is a powerful analytical technique for analysing relationships between independent and dependent variables. A distinctive feature of PLS-SEM is its ability to determine the statistical significance of direct effects and, more importantly, to clarify the direction of these effects. By interpreting path coefficients, researchers can ascertain whether the independent variable exerts a positive or negative influence on the dependent variable, providing profound insights beyond the mere existence of a relationship. It fosters a deeper understanding of the underlying mechanisms and enables the formulation of more precise and effective interventions or strategies in practical applications. To illustrate its practical application, a recent study conducted on Saudi banks in the Eastern Province was used. The results showed that equity has a positive impact on economic, environmental, and social sustainability (t = 4.262, p =0.000, t = 2.502, p =0.013, t = 7.172, p =0.000). These findings led to the acceptance of the first, second, and third hypotheses. In contrast, debt financing had a positive impact on economic, environmental, and social sustainability (t = 5.456, p =0.000, t = 3.306, p =0.001, t = 7.147, p =0.000), which led to the acceptance of the fourth, fifth, and sixth hypotheses of the study. These results are shown in Table 5 and Figure 2.

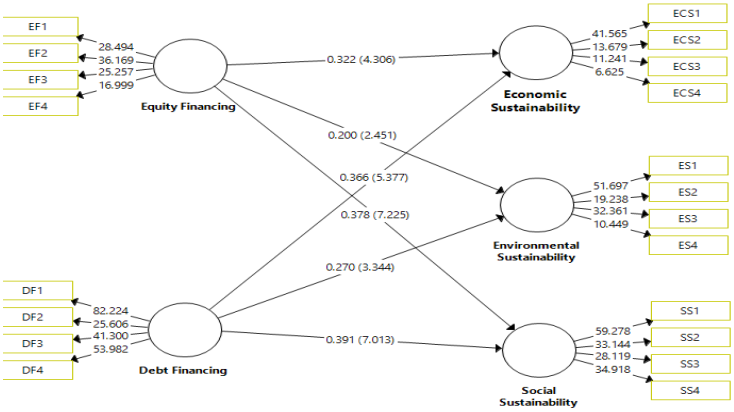

Fig. 2: Structural Equation Modelling.

7. Conclusion

In recent years, banks in the Kingdom of Saudi Arabia (KSA) have increasingly recognized the strategic importance of integrating environmental, social, and governance (ESG) criteria into their corporate finance strategies. This integration not only reflects an evolving global scenario, where sustainability is fundamental, but it also demonstrates a commitment to economic stability and long-term social responsibility. The KSA banking sector, traditionally focused on profitability and growth, is now required to align financial strategies with sustainability goals, influenced by regulatory requirements and increasing awareness of stakeholders.

Corporate finance strategies that prioritize ex -ex-sustainability practices allow KSA Mitige banks to mitigate the risks associated with environmental degradation and social agitation. For example, investment in green financing initiatives allows banks to support renewable energy projects, thus promoting a transition to a more sustainable economy. This investment not only provides financial returns but also contributes to reducing carbon emissions and improving public health, thus ensuring social license and improving community relationships. Integrating environmental, social, and corporate governance (ESG) practices into national economic policies has a direct impact on achieving tangible financial savings in the medium and long term. Growing evidence has shown that organizations that effectively implement ESG criteria often experience reduced operating costs through improved resource efficiency, reduced environmental and social risks, and prior regulatory compliance, which reduces fines and litigation. Accordingly, government agencies are recommended to provide tax incentives and financing benefits to companies that adhere to approved ESG practices, such as tax reductions for sustainable companies or facilitating access to green financing. It is recommended that future research explore the impact of green bonds on sustainability outcomes, with a particular focus on comparing different dimensions of corporate governance. Such studies could provide deeper insights into how governance structures influence the effectiveness of green financing in promoting sustainable development and

It is also recommended to encourage the establishment of strategic partnerships between the public and private sectors to promote the exchange of knowledge and best practices in this field, thus enhancing economic competitiveness and accelerating the transition to sustainable development. In addition, governance practices that emphasize transparency and ethical considerations are crucial for building confidence with investors and the broader community. KSA banks adopting robust governance structures are better equipped to manage risks, meet regulatory changes, and respond to social demands. This proactive approach promotes stability and resilience in the banking sector, ensuring that financial institutions can support economic fluctuations.

Finally, the alignment of corporate financing strategies with ESG practices is indicative of a broader commitment to social responsibility in KSA banks. This strategic change not only improves the capital of banks' reputation but also establishes the foundations for sustainable economic growth. By prioritizing ESG factors, KSA banks can create a support ecosystem that drives innovation, attracts foreign investments, and contributes to the broader socioeconomic development of the kingdom. In conclusion, the integration of these strategies not only addresses immediate financial viability but also promotes a sustainable future that is increasingly required by global and local stakeholders.

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