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ADVANCING ESG INTEGRATION IN STOCK MARKET: A SECTORAL STUDY OF SUSTAINABILITY REPORTING IN PAKISTAN

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Abstract

This study examines sustainability reporting practices among firms listed on the Pakistan Stock Exchange, focusing on sectoral differences, reporting patterns, and the interconnection between economic, social, and environmental dimensions. The research analyzes standalone sustainability reports from sixty-two organizations across fifteen sectors between 2016 and 2020, using content analysis aligned with the global reporting initiative standards. The findings indicate that although sustainability reporting has increased in Pakistan, it remains uneven and largely motivated by compliance. Disclosures heavily emphasize economic indicators such as financial performance, with leading firms disclosing at a rate of 94.4 percent, while lagging firms report significantly less on environmental issues such as emissions and energy consumption, and social concerns including labor rights and child labor, ranging between eleven and twenty-three percent. Sectoral analysis reveals that banking, oil and gas, and cement sectors report more frequently, largely due to regulatory obligations and stakeholder scrutiny, while retail and engineering sectors lag behind. The presence of integrated reporting positively correlates with comprehensive performance across the three sustainability dimensions i.e., economic, environmental, and social, but remains limited due to the voluntary nature of frameworks, inadequate resources, and weak enforcement mechanisms. The study highlights the need for mandatory reporting, capacity development programs, and strategic alignment with global frameworks such as the global reporting initiative and the United Nations Sustainable Development Goals. Policy reforms, tailored sector-specific guidelines, and active stakeholder engagement are essential to bridge the divide between symbolic gestures and meaningful sustainability disclosures. This research contributes to the discourse on environmental, social, and governance reporting in emerging markets, offering insights for policymakers, corporate executives, and investors aiming to advance sustainable development in Pakistan.

Keywords: Sustainability Reporting, GRI Standards, ESG Disclosures, Corporate Governance

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INTRODUCTION

Organizations around the world have increasingly adopted sustainability reporting as a fundamental mechanism for demonstrating accountability and commitment to environmental, social, and governance practices. Globally standardized disclosure frameworks such as the Global Reporting Initiative, the Integrated Reporting framework, and the Sustainability Accounting Standards Board allow stakeholders to evaluate corporate contributions toward sustainable development (Khan et al., 2022). In Pakistan, the uptake of sustainability reporting and articulation of its value by various firms has progressed gradually, shaped by globalization, regulatory guidance, and stakeholder expectations (Hussain et al., 2020; Shahabuddin & Ali, 2024). This trend initially began with multinational corporations adopting international practices to align with global norms (Khan & Ahmed, 2017; Wang & Huang, 2024), while local firms began to use it strategically to build stakeholder trust and maintain competitiveness.

In Pakistan, the Securities and Exchange Commission of Pakistan and the Pakistan Stock Exchange have played an important role in advancing environmental, social, and governance disclosures through various programs, voluntary frameworks, and corporate governance codes (Alam & Raza, 2018; Rehman & Saeed, 2020; Petrakis, 2021). However, the variation in reporting quality and depth remains largely due to the absence of mandatory disclosure requirements across sectors (Rahman et al., 2021). Sectoral studies have shown that industries such as banking, energy, and textiles report more comprehensively, driven by regulatory scrutiny and international trade dependencies (Ahmed & Javed, 2021). Conversely, smaller industries often lag due to limited capacity and low levels of awareness (Malik & Nadeem, 2022; Porro & Gia, 2021). Stakeholder theory and legitimacy theory help explain corporate motivations, framing sustainability disclosures as tools for both strategic positioning and reputation management (Nasir & Tariq, 2021; Zhang, 2021; Hassan & Farooq, 2019).

This study assesses the current status of sustainability reporting among firms listed on the Pakistan Stock Exchange, analyzing sectoral differences, prevailing trends, and the interaction between economic, environmental, and social dimensions. It applies content analysis following the Global Reporting Initiative standards to evaluate the disclosure practices of sixty-two organizations across fifteen sectors over the period 2016 to 2020 (Ismail et al., 2023; Durbin & Filer, 2021; Hsieh & Shannon, 2005). The findings reveal a cultural inclination toward emphasizing economic indicators, while environmental disclosures are moderate, and social indicators are relatively limited (Ahmed et al., 2021; Lin, 2021). To enhance the overall quality of sustainability reporting, the study underscores the necessity for a standardized framework, regulatory enforcement, and institutional capacity-building efforts (Securities and Exchange Commission of Pakistan, 2017; Global Reporting Initiative, 2016). This research contributes to the discourse on sustainable business practices in emerging markets by linking theoretical perspectives with empirical insights and offering practical recommendations for policymakers, corporate leaders, and stakeholders engaged in Pakistan's sustainable development process.

LITERATURE REVIEW

The concept of sustainability reporting in Pakistan originates from global trends in corporate social responsibility and internationally recognized sustainability frameworks. Over the past two decades, there has been increasing interest among scholars, policymakers, and corporate actors in the transparency of sustainability-related information in Pakistan. This literature review explores the evolution, driving forces, and trends in sustainability reporting, drawing from academic journals and literature focused on this subject. Pakistani companies initially engaged in voluntary disclosure of sustainability information in a limited manner (Khan & Ahmed, 2017; Situngkir, 2024). In the early 2000s, global frameworks such as the Global Reporting Initiative, Integrated Reporting, and the Sustainability Accounting Standards Board began to receive attention. The development of sustainability reporting in Pakistan was shaped by global integration and regulatory shifts. Multinational corporations operating within Pakistan were the early adopters, owing to their exposure to international norms and standards (Hussain et al., 2020; Walsh, 2022; Audi et al., 2025). These changes were observed across the banking, energy, and manufacturing sectors (Shah et al., 2019). Furthermore, the Securities and Exchange Commission of Pakistan played a pivotal role by issuing guidelines that encouraged organizations to disclose environmental, social, and governance-related information.

Alam and Raza (2018) note that corporate governance listing requirements issued by the Securities and Exchange Commission of Pakistan contributed significantly to the adoption of non-financial disclosures. Similarly, the Pakistan Stock Exchange introduced voluntary environmental, social, and governance disclosure guidelines for listed companies (Rehman & Saeed, 2020). These developments reflect a gradual transformation from a compliance-oriented model to a strategy-focused approach with stakeholder engagement at its core. International frameworks primarily guide these disclosures in Pakistan, with the Global Reporting Initiative being the most widely adopted (Khan et al., 2022). Companies listed on the Pakistan Stock Exchange are expected to follow corporate governance principles that encompass specific environmental, social, and governance disclosures (Ahmad & Rashid, 2020). However, the absence of mandatory reporting standards has resulted in significant variation in the content and quality of disclosures (Raza et al., 2021; Russel & Audi, 2024).

Multiple motivating factors drive Pakistani companies toward sustainability reporting. Malik and Nadeem (2022) highlight that pressures from investors, consumers, and regulators are major catalysts. Other drivers include corporate image, competitive positioning, and the desire to attract socially responsible investors (Nasir et al., 2021). Additionally, public policy measures and international trade requirements have reinforced the importance of these practices (Ali & Jamil, 2020). Theoretical frameworks such as legitimacy theory suggest that companies disclose sustainability information to meet societal expectations and maintain legitimacy (Hassan & Farooq, 2019). These efforts aim to enhance reputation and reduce social risk by aligning corporate practices with stakeholder interests. Stakeholder theory reinforces this view by emphasizing the influence of diverse groups—such as investors, consumers, regulators, and non-governmental organizations—on corporate transparency (Nasir & Tariq, 2021). As awareness increases, companies in Pakistan are gradually realizing the necessity of transparent sustainability communication to balance stakeholder demands. Regulatory influences and global best practices are also cited by Ali et al. (2022) as critical in shaping sustainability disclosure trends.

Khan et al. (2022) analyzed sustainability disclosure trends in Pakistan and found that while most firms follow global frameworks like the Global Reporting Initiative, significant differences exist across sectors, reflecting industry-specific drivers. Similarly, Ahmed and Javed (2021) examined the financial sector and found banks to be more active in sustainability reporting compared to manufacturing firms, owing to regulatory pressure and investor expectations. Iqbal et al. (2020) identified firm size, profitability, and foreign ownership as key determinants that positively influence disclosure levels. These findings align with global research, which suggests that larger firms under greater stakeholder scrutiny disclose more detailed sustainability information (Haque & Ntim, 2020). Alam and Usman (2019) further noted that board independence and gender diversity in corporate governance structures are positively associated with disclosure quality. Rahman et al. (2021) observed that despite increased voluntary reporting, the lack of strong enforcement mechanisms continues to result in inconsistent and non-comparable sustainability disclosures. They advocate for standardized frameworks to enhance reporting across various industries.

Although international sustainability reporting frameworks have been introduced in Pakistan, adoption has been inconsistent. Multinational corporations tend to comply with global standards, whereas local firms often fall short. Ahmed and Jamil (2021) noted that the Global Reporting Initiative is the most commonly used framework in Pakistan. Nonetheless, limitations related to data availability, technical expertise, and regulatory enforcement have impeded widespread adoption. Anwar and Khan (2022) found that financial institutions such as banks and insurance companies have made substantial progress by incorporating sustainability disclosures in their annual reports. The State Bank of Pakistan issued environmental and social risk management guidelines for banks, which facilitated reporting practices in the financial sector. However, sustainability reporting remains underdeveloped in the non-financial sectors such as manufacturing and energy (Zahid & Saleem, 2023).

Sustainability practices are closely linked to corporate governance structures in Pakistan. Companies with independent directors, audit committees, and gender-diverse boards are more likely to adopt sustainability reporting (Rehman et al., 2020). Effective corporate governance enhances accountability and encourages the disclosure of environmental, social, and governance information. According to Iqbal and Jamal (2021), family-owned businesses in Pakistan often resist regulatory pressure and display lower disclosure levels due to confidentiality concerns. Conversely, publicly listed state-owned enterprises are more inclined to adopt international disclosure standards to attract foreign investment (Khalid & Shahid, 2023).

Different sectors in Pakistan have adopted sustainability reporting to varying degrees. Due to growing environmental concerns, energy sector companies—particularly oil and gas firms—have increasingly reported on emissions management, carbon reduction, and renewable energy efforts (Mahmood & Ali, 2021). Similarly, the textile and apparel sector has responded to international buyer requirements and supply chain transparency by improving sustainability disclosure practices (Rashid & Usman, 2022). Leading textile firms have begun aligning with international reporting frameworks to comply with trade regulations and protect their brand image. Government policies and regulatory bodies play a key role in shaping these trends. The Securities and Exchange Commission of Pakistan has taken steps to promote non-financial reporting through its corporate governance framework and disclosure recommendations (Yousaf & Raza, 2022). Although compliance levels vary, recent voluntary initiatives launched by business associations and industry groups have gained momentum. Organizations such as the Pakistan Business Council and other corporate actors have taken steps to institutionalize reporting practices (Nawaz & Hassan, 2023), aiming to close the gap and improve the standardization of sustainability disclosure.

The relationship between sustainability reporting and financial performance in Pakistan has yielded mixed results. Some researchers argue that strong environmental, social, and governance disclosures enhance firm value by reducing information asymmetry and improving investor confidence (Rafiq & Anwar, 2021). Firms with transparent reporting attract long-term investors and benefit from lower capital costs. However, other studies suggest that the effectiveness of such reporting is influenced by firm size, industry-specific dynamics, and stakeholder engagement (Ahmed & Saeed, 2022). Larger firms with greater market exposure benefit more from sustainability disclosure, while small and medium-sized enterprises often perceive it as a financial burden. The literature on sustainability reporting in Pakistan shows a trend of increasing, though uneven, adoption. While regulatory advances and international frameworks have led to improved transparency, the journey toward standardized and complete reporting continues. As corporate governance practices evolve and stakeholder expectations grow, sustainability disclosure trends are likely to change. Future research should focus on empirical assessments of sustainability outcomes, the effectiveness of policy interventions, and comparative analysis with other developing countries to better understand the development of sustainability reporting in Pakistan.

RESEARCH METHODOLOGY

POPULATION AND SAMPLE

The population for this research consists of organizations listed on the Pakistan Stock Exchange, which, as of 2024, includes more than five hundred registered companies across thirty-six distinct industry categories. Given the widespread nature and extensive scale of sustainability reporting, the initial challenge was to identify a manageable and representative sample that would still permit a meaningful and coherent analysis of reporting practices. To address this, the study first consolidated sectors with overlapping characteristics—such as textile spinning, weaving, and composite industries—into broader but logically grouped categories. This consolidation resulted in fifteen distinct sectors, reducing heterogeneity across groups while preserving analytical consistency and comparability.

To enhance internal validity and mitigate potential biases, two primary inclusion criteria were employed for sample selection. First, the study focused on companies that published standalone sustainability reports between 2016 and 2020. This timeframe was chosen as it represents a key period during which firms in Pakistan increasingly aligned their disclosure practices with international sustainability frameworks. Second, the sample was limited to companies listed on the Pakistan Stock Exchange prior to 2016. This criterion was crucial for ensuring longitudinal consistency in the data and avoiding survivorship bias. Companies listed after 2016 may exhibit different disclosure patterns due to their exposure to evolving regulatory standards or newer market-driven practices. The distribution of the selected organizations by sector is presented in table 1.

TABLE 1: SECTOR-WISE ORGANIZATIONS DISTRIBUTION

Sector	Number of Organizations
Banking and Financial Services	10
Oil and Gas	8
Textile	6
Cement	5
Pharmaceuticals	5

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Power Generation	4
Food and Beverage	4
Automobile	4
Chemical	3
Insurance	3
Technology and Communication	3
Engineering	2
Retail	2
Fertilizers	2
Miscellaneous	1

Table 1 illustrates that the banking and financial services sector includes ten organizations actively engaged in sustainability reporting, reflecting the prominence of this sector within Pakistan's evolving economic landscape. Similarly, eight organizations belong to critical industries such as oil and gas and textiles, which play an essential role in maintaining the industrial structure of the country. The sectoral composition was intentionally balanced to ensure that the study captures the diversity and contextual variation in sustainability practices across different segments of the Pakistani corporate market.

This rigorous sectoral consolidation and selection process ultimately produced a reliable sample of sixty-two organizations spanning a wide range of sectors. The selected period from 2016 to 2020 allowed for a focused examination of reporting behaviors without the confounding effects of the Coronavirus Disease 2019 pandemic, which may have distorted typical disclosure trends. Excluding this anomaly enhances the ability to assess the influence of the revised Global Reporting Initiative Standards with greater precision. Furthermore, this methodological approach contributes to the consistency and validity of the findings and is aligned with broader discussions on the state of sustainability disclosure in Pakistan (Global Reporting Initiative, 2016; Pakistan Stock Exchange, 2023).

DATA COLLECTION

The data collection process for this research was designed to include and evaluate the various dimensions of corporate sustainability reported by companies operating in Pakistan. To achieve this, the study employed a combination of primary and secondary data sources to enhance the understanding of how sustainability-related matters are disclosed within Pakistan's corporate environment.

Primary data were sourced from official sustainability-related publications issued by companies, including standalone sustainability reports, annual financial disclosures, and Corporate Social Responsibility reports. These formal documents were supplemented and verified using information published on company websites. The reports provided direct insight into how organizations articulate their sustainability strategies, describe their operational practices, and present the resulting outcomes. The study prioritised primary documentation to capture authentic corporate perspectives and internal narratives on sustainability, aligned with the guidance of the Global Reporting Initiative (2016). These sources are particularly significant for Pakistani firms, which must adapt international disclosure standards to the local context, dealing with challenges such as resource management, energy efficiency, and community welfare.

In addition to primary data, secondary sources were employed to support external validation and to contextualize the policy and regulatory landscape of sustainability reporting in Pakistan. These sources included regulatory documents, oversight frameworks, and official policy statements, which are critical in understanding the trajectory of compliance and enforcement. Notably, the National Climate Change Policy (2012) and the Corporate Governance Code issued by the Securities and Exchange Commission of Pakistan (2017) were referenced to establish the regulatory expectations for environmental and governance performance in Pakistani companies. These documents help shape corporate sustainability disclosures within a national regulatory context (Securities and Exchange Commission of Pakistan, 2017; National Climate Change Policy, 2012). Secondary data served two primary purposes: validating the credibility of primary disclosures and explaining how national policies influence sustainability practices and reporting behavior. In this way, the study offers a comprehensive picture of how global sustainability standards intersect with national governance frameworks, highlighting the evolution of sustainability reporting in Pakistan.

To convert qualitative data into measurable outcomes, the study used content analysis with a directive approach, as recommended by Hsieh and Shannon (2005). This method was grounded in the framework provided by the Global Reporting Initiative Standards (2016), allowing for a structured and systematic evaluation of disclosures across the three pillars of sustainability—economic, social, and environmental. For the economic dimension, the indicators assessed included economic performance, procurement policies, and anti-corruption strategies, in alignment with Global Reporting Initiative topics 201, 204, and 205, respectively. For the environmental dimension, attention was given to energy consumption, emissions, and biodiversity impacts, corresponding to topics 302, 305, and 304. In the social dimension, the indicators examined were occupational health and safety, employee training and education, and community engagement, aligned with topics 403, 404, and 413. This multidimensional approach ensured a comprehensive evaluation of sustainability performance, appropriately contextualized within the Pakistani corporate setting.

EMPIRICAL METHODOLOGY

To comprehensively analyze corporate disclosures in this study on sustainability reporting in Pakistan, the data analysis process was designed to yield both qualitative insights and quantitative metrics. By integrating these complementary methods, the research addressed the inherent complexity of sustainability reporting by examining thematic patterns within corporate disclosures and quantifying specific indicators based on a structured framework aligned with the Global Reporting Initiative Standards (Global Reporting Initiative, 2016). The qualitative phase of the study involved an in-depth content analysis of sustainability disclosures issued by Pakistani companies. Following the directive content analysis approach outlined by Hsieh and Shannon (2005), this phase entailed systematically coding narrative content from primary documents—including standalone sustainability reports, annual financial reports, and Corporate Social Responsibility disclosures—into the three principal dimensions of the Global Reporting Initiative framework: economic, environmental, and social. This coding process enabled the classification of qualitative data into distinct thematic categories, capturing the multifaceted nature of sustainability practices. For instance, economic challenges were identified through disclosures on financial performance and procurement processes; environmental aspects were explored through information on energy consumption and emissions management; and social disclosures focused on community participation, occupational health, and employee welfare. This methodological structure facilitated the identification of sectoral priorities, recurring challenges, and emerging trends in corporate sustainability disclosures within the Pakistani context (Global Reporting Initiative, 2016; Hsieh & Shannon, 2005).

Quantitative evaluation involved computing key descriptive statistics for thirty-five predefined indicators derived from the Global Reporting Initiative standards. Descriptive techniques such as calculating mean values, standard deviations, and frequency distributions were employed to assess both the extent and uniformity of sustainability reporting across the sample. These statistical metrics not only indicated the overall presence or absence of reporting but also highlighted disparities in disclosure practices. For example, while several firms consistently reported financial performance over multiple years, others frequently omitted indicators related to biodiversity or emissions under the environmental dimension. To examine the interrelationships among the three sustainability dimensions, the study employed Pearson's two-tailed correlation analysis. This statistical technique was used to determine the direction and strength of relationships between economic, environmental, and social disclosures. Correlation analysis was critical for understanding whether performance in one sustainability domain tended to reinforce or correspond with performance in others, thereby offering evidence on the integrated nature of corporate sustainability efforts.

A central component of the quantitative analysis involved the development of a Sustainability Reporting Score and a comprehensive Sustainability Reporting Index. The Sustainability Reporting Score was calculated using a simple but effective formula:

$$\text{Sustainability Reporting Score} = (\text{Number of Disclosed Items} / 35) \times 100$$

This formula yielded a percentage that represented the extent to which an individual company reported on the thirty-five indicators set forth by the Global Reporting Initiative. It provided a quick, standardized measure of the comprehensiveness of each firm's reporting efforts.

Building on this, the Sustainability Reporting Index was constructed to evaluate the overall quality of sustainability disclosures in terms of their alignment with the three core dimensions of sustainability. The model used to compute this index was specified as follows:

$$\text{Sustainability Reporting Index} = \alpha + \beta_1 (\text{Economic}) + \beta_2 (\text{Environmental}) + \beta_3 (\text{Social}) + \epsilon$$

In this equation, the economic, environmental, and social terms represent the normalized scores for each sustainability dimension; α denotes the constant intercept; β_1, β_2, and β_3 are coefficients indicating the contribution of each dimension to the overall index; and ϵ represents the error term. This statistical model, owing to its comprehensive design, allowed the study to not only assess the coherence of sustainability reporting practices but also identify specific areas where companies could enhance their disclosures (Global Reporting Initiative, 2016).

RESULTS AND FINDINGS

The results and findings of the analysis of sustainability reporting practices among listed organizations in Pakistan, particularly those listed on the Pakistan Stock Exchange, are presented in this section. These findings are based on the three fundamental dimensions of sustainability—economic, environmental, and social—as outlined by the Global Reporting Initiative Standards. Using content analysis and Pearson correlation analysis, the study examined disclosure patterns, corporate behavior, and the interrelationships between the dimensions of sustainability reporting in the Pakistani context.

The research is based on a sample of sixty-two organizations from different sectors of the Pakistan Stock Exchange that had published standalone sustainability reports between

2016 and 2020. The findings indicate a significant increase in sustainability reporting in recent years, reflecting a growing commitment among businesses in Pakistan to transparency and sustainable development. Despite this progress, many reporting entities in Pakistan remain hesitant to fully adopt the comprehensive disclosure framework prescribed by the Global Reporting Initiative. This trend aligns with earlier studies suggesting that sustainability reporting in developing countries continues to lag behind that of developed economies (Khan et al., 2019b).

Among the three sustainability dimensions, the economic dimension received the greatest attention from Pakistani firms. The content analysis revealed that 94.40 percent of the organizations disclosed information related to economic performance indicators, including revenue generation, taxation, dividend distribution, and employee compensation (Ismail et al., 2023). However, within the economic category, the reporting coverage varied significantly across specific indicators. For instance, while economic performance was widely disclosed (94.40 percent), indicators such as anti-competitive behavior (70.00 percent) received relatively moderate attention. In contrast, disclosures on market presence (23.00 percent) and anti-corruption practices (24.80 percent) were notably sparse (Ismail et al., 2023). These discrepancies suggest that firms are more inclined to report on indicators that reflect positively on financial stability, while disclosures on sensitive topics such as corruption and market competition are often avoided due to reputational concerns. Environmental sustainability was the second most emphasized reporting area among organizations listed on the Pakistan Stock Exchange. According to Ismail et al. (2023, p. 557), disclosure rates were recorded at 88.00 percent for environmental compliance, 76.50 percent for energy consumption, and 72.00 percent for emissions control. Environmental reporting typically focused on alignment with international standards such as ISO 8000, and included information on emissions reduction, waste management, and energy conservation practices. Nevertheless, certain indicators such as biodiversity (23.60 percent), material usage (21.80 percent), and environmental assessments of suppliers (41.30 percent) were reported less frequently. These findings reflect the industrial composition and environmental challenges of Pakistan's resource-based economy, where pollution management and energy efficiency are growing concerns (Ahmad et al., 2021).

The three sustainability dimensions—economic, environmental, and social—were prioritized differently across organizations. In the social dimension, the most frequently reported indicators included occupational health and safety (92.10 percent), training and education initiatives (88.60 percent), and employment practices (71.40 percent) (Ismail et al., 2023). In contrast, indicators related to labor-management relations (33.70 percent), freedom of association (42.00 percent), public policy involvement (16.50 percent), and child labor (11.00 percent) were significantly underreported. This lack of reporting may be attributed to sociocultural sensitivities surrounding labor and human rights issues in Pakistan, as well as limited regulatory enforcement in these areas. In some instances, companies may have considered indicators such as forced or child labor irrelevant or non-existent, despite their possible prevalence in informal economic sectors (Hervieux et al., 2017). Descriptive statistical results show that economic sustainability reporting achieved the highest mean score at 0.5563, followed by environmental sustainability at 0.5432, and social sustainability at 0.4436 (Ismail et al., 2023). These findings are visually summarized in table 2.

TABLE 2: DESCRIPTIVE STATISTICS OF SUSTAINABILITY REPORTING DIMENSIONS

Dimension	Mean Score	Standard Deviation	Highest Reported Indicator (%)	Lowest Reported Indicator (%)
Economic	0.5563	0.12	Economic Performance (94.4%)	Anti-corruption (24.8%)
Environmental	0.5432	0.15	Compliance (88.0%)	Biodiversity (23.6%)
Social	0.4436	0.18	Occupational Health (92.1%)	Child Labour (11.0%)

The three dimensions of the sustainability reporting were found to have strong, positive, and statistically significant relationships among them. Specifically:

- Economic and Social: $r = 0.7750$ ($p < 0.01$)
- Economic and Environmental: $r = 0.7204$ ($p < 0.05$)
- Social and Environmental: $r = 0.7931$ ($p < 0.01$)

TABLE 3: CORRELATION MATRIX OF SUSTAINABILITY DIMENSIONS

Dimensions	Economic	Environmental	Social
Economic	1		
Environmental	0.7204*	1	
Social	0.7750**	0.7931**	1

*Significant at $p < 0.05$; **Significant at $p < 0.01$

Aligned with the systems theory paradigm, these findings suggest that the integration of economic, environmental, and social dimensions can lead to synergistic outcomes and enhance overall sustainability performance (Bansal & Song, 2017). This holistic approach reinforces the notion that sustainability should not be treated as a set of isolated categories but as an interconnected framework that collectively contributes to long-term corporate value and resilience.

The analysis also reveals notable sectoral differences in the adoption and implementation of sustainability reporting practices in Pakistan. Higher levels of engagement in sustainability disclosures were observed in sectors such as banking and financial services, oil and gas, cement, and textiles. These industries appear more responsive to both regulatory expectations and stakeholder pressures, often due to their visibility, environmental risk exposure, or international operational linkages. The detailed sectoral results are presented in Table 4:

TABLE 4: SECTOR-WISE SR SCORES (2019–2024)

Sector	Average SR Score (%)
Banking & Financial Services	78.5
Oil & Gas	72.3
Textile	65.8
Cement	68.9
Retail	34.2
Miscellaneous	28.7

The higher participation of certain sectors in sustainability reporting is primarily attributed to regulatory pressures from national authorities such as the Securities and Exchange Commission of Pakistan, followed by sector-specific requirements and the evolving expectations of key stakeholders, including investors, customers, and international trade partners. Consequently, industries such as banking and oil and gas are subject to greater scrutiny due to their substantial environmental and social footprints, which necessitate adherence to the Global Reporting Initiative framework and other sustainability standards to preserve transparency and institutional legitimacy. In contrast, sectors such as retail, engineering, and miscellaneous services show minimal engagement in sustainability reporting practices. This lower level of commitment is often linked to the absence of industry-specific regulatory mandates, weak stakeholder pressure, and limited organizational awareness or capacity to implement structured sustainability disclosure systems. These sectoral disparities reflect an uneven adoption of sustainability practices within Pakistan's corporate landscape, wherein resource-intensive and globally oriented industries demonstrate greater progress, while smaller or domestically focused sectors lag behind in implementing comprehensive reporting frameworks.

Although sustainability reporting practices in Pakistan have evolved positively in recent years, the overall number of organizations deeply committed to these disclosures remains substantially lower than in developed countries (Global Reporting Initiative, 2016). In more advanced economies, firms tend to demonstrate stronger alignment with the Global Reporting Initiative framework by offering detailed, transparent, and comprehensive disclosures across the economic, environmental, and social pillars of sustainability. This trend is driven by robust regulatory infrastructures, heightened investor expectations, and well-established corporate governance systems. In contrast, Pakistani firms predominantly adopt a compliance-based approach, where sustainability disclosures are limited to fulfilling mandatory obligations or responding to stakeholder requests (Khan et al., 2019b). Persistent barriers to the adoption of integrated sustainability strategies include the voluntary nature of reporting, the lack of enforcement mechanisms, low organizational awareness, and financial and technical resource limitations. These findings underscore the urgent need for stronger policy interventions, targeted capacity-building programs, and regulatory support to facilitate the development of standardized and transparent sustainability reporting practices in Pakistan.

DISCUSSION

This study has been interpreted and contextualized within existing theoretical frameworks and prior literature. The findings illustrate the evolving nature of sustainability reporting in Pakistan, revealing patterns that are sector-specific, stakeholder-driven, shaped by regulatory pressures, and aligned with the theoretical foundations of stakeholder theory, legitimacy theory, and systems theory. Organizations are encouraged to recognize the interests and expectations of a broad range of stakeholders, extending beyond shareholders alone. The findings demonstrate that sustainability reporting in Pakistan is predominantly driven by the expectations of investors, customers, and regulatory bodies. Industries such as banking, oil and gas, and cement are particularly responsive to stakeholder concerns due to their high visibility and substantial environmental and social footprints (Khan et al., 2019b). As a result, firms in these sectors tend to adopt sustainability reporting as a strategic communication tool to address issues such as environmental degradation, labor practices, and corporate governance.

According to legitimacy theory, organizations disseminate sustainability-related information to demonstrate alignment with societal norms and expectations, thus securing their social license to operate (Suchman, 1995). The results of this study suggest that most sustainability reporting in Pakistan remains compliance-oriented. Many firms disclose only limited information, particularly avoiding sensitive topics such as child labor, labor rights, and anti-corruption practices. This behavior reflects a reactive approach focused more on risk mitigation than proactive value creation. It is consistent with existing research that identifies symbolic legitimacy strategies among firms in developing economies, where disclosure is used to preserve reputation rather than reflect substantive sustainability efforts (Mahmood et al., 2019).

Systems theory emphasizes the interconnectedness of organizational activities across economic, environmental, and social domains. The strong positive correlations identified among these three dimensions in this study support the systems theory view, suggesting that integrated sustainability practices yield superior performance and long-term competitiveness (Ismail et al., 2023; Munir et al., 2024). Improved performance in one domain, such as environmental practices, appears to reinforce performance in others, including economic contributions and social engagement.

While the Securities and Exchange Commission of Pakistan has introduced various guidelines to encourage environmental, social, and governance disclosures, sustainability reporting in Pakistan remains largely voluntary. The degree of compliance varies significantly across industries (Yousaf & Raza, 2022). For instance, regulatory efforts such as the State Bank of Pakistan's green banking guidelines and environmental and social governance frameworks have prompted stronger reporting in the banking and financial services sector (Ali, 2018; Ashraf et al., 2020). In contrast, sectors like retail and engineering have shown weak compliance, highlighting the urgent need for comprehensive regulatory reform to standardize and enhance sustainability disclosures across sectors.

The findings indicate significant sectoral disparities in sustainability reporting practices. Companies in highly regulated, resource-intensive sectors with international exposure tend to produce more comprehensive reports, particularly in line with the Global Reporting Initiative standards. In contrast, organizations in sectors with minimal stakeholder pressure or weak regulatory oversight, such as retail and miscellaneous industries, tend to disclose less or do so inconsistently. These results support prior studies suggesting that industry characteristics and organizational scale are key determinants of sustainability reporting engagement (Ahmed & Saeed, 2022).

In terms of disclosure trends, Pakistani companies have focused most strongly on the economic dimension. Disclosures typically address financial performance, market presence, and contributions to local communities. However, reporting on anti-competitive behavior and corruption remains limited, likely due to reputational risks associated with transparency in these areas (Banyen, 2022; Ismail et al., 2023). Environmental reporting is moderately integrated, with higher reporting levels for emissions, energy usage, and regulatory compliance. Nonetheless, less emphasis is placed on issues such as biodiversity conservation and environmental assessments of suppliers, indicating a narrow compliance-driven focus rather than a commitment to broader environmental stewardship (Ahmed et al., 2021; Subhani et al., 2022; Olubiyi, 2023). Social dimension reporting is the weakest, with emphasis mainly on employee welfare, occupational health and safety, and training. Minimal disclosures were found on sensitive areas such as child labor, forced labor, and freedom of association. Cultural norms, gaps in regulatory enforcement, and organizational resistance are likely contributing factors to this underreporting (Ahmed, 2019; Hervieux et al., 2017). The findings of this study carry meaningful implications for corporate managers, regulators, investors, and other stakeholders. For corporate leaders, the research highlights the need to transition from compliance-based disclosures toward strategic, proactive integration of sustainability practices. Sustainability reporting should be viewed not merely as an obligation but as a vital instrument for fostering transparency, trust, and long-term competitiveness. Greater alignment with international reporting standards such as the Global Reporting Initiative and the United Nations Sustainable Development Goals can help Pakistani firms improve their reporting practices and enhance their reputation in international markets.

For regulators, particularly the Securities and Exchange Commission of Pakistan, the study underscores the need for mandatory sustainability disclosure requirements for all listed entities. The introduction of sector-specific reporting guidelines and industry-wide benchmarks could ensure consistency and comparability across sectors. Investment in capacity-building programs for corporate managers would also strengthen their ability to implement best reporting practices. For investors and stakeholders, the study stresses the importance of evaluating not just the presence of sustainability disclosures, but also their quality, relevance, and completeness. Investors must be critical of symbolic disclosures and advocate for authentic sustainability practices that deliver real value for society and the environment. Stakeholders should be engaged through public consultations, feedback platforms, and sustainability forums to enhance accountability and encourage continuous improvement in reporting. Despite recent improvements, Pakistani organizations remain behind developed nations in the adoption of comprehensive sustainability reporting practices. In developed economies, sustainability reporting is deeply embedded within corporate governance, supported by mandatory disclosure laws and robust stakeholder engagement. Reports in these contexts are typically standardized, transparent, and oriented toward long-term value creation. In contrast, Pakistani firms often perceive sustainability reporting as a compliance burden or marketing tool rather than as a strategic necessity. This is largely due to the lack of a strong regulatory framework, limited organizational capacity, and insufficient awareness of the long-term value associated with sustainability disclosures. Institutional reforms, skill development, and a mindset shift toward integrated and strategic sustainability management are urgently required (Khan et al., 2019b).

CONCLUSIONS

The progress and persistent challenges in Pakistan's sustainability reporting framework form the central theme of this study. The findings reveal that corporate disclosures remain heavily skewed toward the economic dimension, with 94.4 percent of companies reporting on financial performance. In contrast, environmental and social disclosures remain underrepresented, particularly in key areas such as biodiversity, which received only 23.6 percent attention, and labor rights, with just 11 percent inclusion. Sectoral disparities are also evident: while industries such as banking and oil and gas exhibit strong sustainability reporting, driven by regulatory oversight and stakeholder demands, others like retail and engineering demonstrate significantly weaker engagement, largely due to the absence of comparable pressure or incentive structures. The strong correlations observed between economic, environmental, and social disclosures support the principles of systems theory, which posits that integrated reporting enhances overall sustainability performance. Despite efforts by the Securities and Exchange Commission of Pakistan and the Pakistan

Stock Exchange to encourage transparency through voluntary guidelines, the absence of a binding regulatory framework has led to inconsistent adoption across sectors. There is a pressing need for regulatory authorities to introduce standardized reporting requirements and sector-specific benchmarks to improve the consistency, quality, and relevance of sustainability disclosures. Looking ahead, corporate leadership in Pakistan must shift from a compliance-oriented mindset to a strategic approach to sustainability reporting. Disclosures should align with international standards, such as the Global Reporting Initiative and the United Nations Sustainable Development Goals, to enhance competitiveness and global positioning. In parallel, investors and other stakeholders must prioritize the substance and quality of reports over their volume, demanding accountability and tangible outcomes from environmental, social, and governance practices rather than accepting symbolic gestures. The study identifies three important areas for future research: first, understanding how organizational culture shapes the adoption of sustainability reporting; second, conducting comparative analyses with other emerging economies to uncover regional challenges and best practices; and third, assessing the tangible impacts of sustainability disclosure on financial performance, brand reputation, and stakeholder trust. Addressing resource constraints and enhancing awareness through targeted training programs will be crucial to supporting this transition. Ultimately, the advancement of sustainability reporting in Pakistan depends on collaborative efforts between regulators, corporations, and civil society. Through a unified commitment to transparency, accountability, and capacity building, Pakistan's corporate practices can align more closely with global sustainability goals, thereby fostering long-term economic resilience and societal well-being.

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