

Unlocking Sustainable Financial Growth through Intellectual Capital and CSR: Evidence from Emerging Economies

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Abstract: Organizations that adopt sustainability enthusiastically tend to fail to balance the competing wants of their stakeholders and hence are tight-knit to develop sustainable financial growth (SFG). The situation is also aggravated by the fact that a significant number of organizations experience the inability to utilize intangible resources and engage in Corporate Social Responsibility (CSR), which adversely affects performance. The purpose of this research is to examine the effect of Intellectual Capital (IC) on SFG through CSR as a mediator. The study employs secondary data from annual reports of 139 Pakistani firms listed in the Pakistan Stock Exchange (PSX) from 2016 to 2024. This was analyzed using panel data, and the Hausman test indicated that Fixed Effects is the right model. The findings reveal that the components of the IC have a significant impact on CSR and SFG, and CSR also exerts a significant effect on SFG. The relationship between IC and SFG is partially mediated by CSR. Furthermore, the firm size and age have positive effects on SFG, and long-term debt to assets have negative effects on SFG. These findings align with the Stakeholder and the Resource-Based View (RBV) theories. This study is relevant to Pakistan, a developing market with its own institutional issues, which offers an understanding of how the companies operating in this context combine CSR and IC strategies to improve SFG. According to researchers, the SFG index is contrasted with the sustainable growth rate (SGR) and financial performance (FP) indices because it specifically addresses the dynamic relationship between IC, CSR, and SFG in emerging market contexts.

Keywords: Intellectual Capital, Corporate Social Responsibility, Sustainable Financial Growth, Resource-Based View, Stakeholder Theory

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1. Introduction

Pakistani companies face significant challenges when trying to achieve the SFG due to the heightened competition in the market, limited resources, and low productivity (Hussain et al., 2024). The constraints of long-term profit are associated with the lack of innovation, knowledge management, and a deficient skilled labour force (Anser et al., 2024). All these problems are based on a poor use of IC, which incorporates human capital efficiency (HCE), structural capital efficiency (SCE), and relational capital efficiency (RCE) (Yang et al., 2024). HCE, which is measured in terms of the knowledge and skills of employees, causes the improvement of productivity and innovation in the organization, and SCE, which consists of the operations and technologies that operate synergistically, generates the improvements in operations (Marchiori et al., 2022). RCE strengthens partnerships and buyer trust, which provides the financial stability (He et al., 2022). CSR as a medium of mediation works like a relational enhancer to

transform IC into observable, external behaviors that boost stakeholder confidence, business brand, and interaction (Farooq et al., 2023). Through the strategic combination of CSR and IC, organizations enhance their legitimacy and communication to stakeholders leading to the enhancement of SFG. This correlation helps in the long-term profitability and competitiveness. Thus, organizations should consider the CSR as the part of the strategy to achieve the greatest impact of IC on SFG.

Research (Ali et al., 2022; Farooq & Ahmad, 2023; Ramírez et al., 2021; Aljuboori et al., 2021) has extensively studied the nexus of the IC and FP, emphasizing that the HC, SC, and RC lead to earning and market advantage for firms. However, previous studies (Urban et al., 2017; Alves et al., 2021) have not looked at the direct effect of the IC on SFG, which is necessary for firms seeking long-term sustainability in advancing markets. Khali et al. (2024) indicate that SFG is focused on profitability and sustainability, making it worthy of study. Khan et al. (2024) also demonstrated the impacts of CSR in enhancing FP, but have not considered it as a moderator to the relationship between IC and SFG. This mediating role of CSR is important to study because CSR initiatives can enhance the strength of the IC, which then both improves the business reputation through building relations with stakeholders and enhances financial sustainability; therefore, this study investigates these limitations of earlier studies by examining how IC leads to SFG and how CSR enhances this relationship.

Our empirical study is based on the RBV and stakeholder theories. RBV theory claims that intangible assets of the businesses, like the IC, act as the main tools of competitive advantage and financial growth of firms (Naeem et al., 2024). IC and its components enhance creativity, efficiency, and stakeholder involvement, all of which improve SFG. Furthermore, the Stakeholder Theory recognizes the importance of CSR. Stakeholder theory claims that businesses that consider the requirements of stakeholders (employees, customers, and society) to attain strategic success are more successful (Awa et al., 2024). Based on these theories, this research aims to clarify the answers to these questions: (1) Does IC improve SFG of Pakistani firms? (2) Does CSR mediate the nexus of IC and SFG?. These research questions provide a deeper understanding of how firms can strategically utilize their intangible resources, i.e., IC and CSR, for financial sustainability.

Our study is suitable for Pakistani non-financial firms because they face significant issues in achieving SFG as compared with financial firms (Safdar et al., 2024). Non-financial companies rely on both tangible and intangible resources. According to Ali et al. (2022), a firm's 80% success rate relies on intangible resources - including human resources, social capital, and relationships, all part of IC - for improving operational efficiencies and sustaining the stability of the firm. Still, many firms are suffering from poor efficiency, poor knowledge, low innovative strategies, and low stakeholder trust, which reduces a firm's sustainability (Ahmad, 2024). CSR can improve the impact of IC for the firm through increased brand reputation, improved customer loyalty, and investor confidence (Ardiansyah & Alnoor, 2024). This research will provide implications for policymakers and business leaders on optimizing IC and CSR practices intentionally for sustainable growth - hence, it is important to conduct this research in Pakistan.

The research relied on secondary data from the annual reports of 139 firms on the PSX from 2016 to

2024. A deductive approach was used to validate existing theories, including the RBV and stakeholder theory. The analysis of the data involved the use of panel data techniques (fixed effect and random effect). The Hausman test showed that the fixed effect is panel appropriate. Intellectual capital and its dimensions were measured using the Modified Value Added Intellectual Coefficient (MVAIC) method. The CSR was evaluated based on a multidimensional approach that emphasized donations, charity, employee welfare funds, and R&D as a percentage of the net revenue. The composite index created by Ahsan et al. (2021), comprising ratios of profitability, operating capacity, liquidity, solvency, and development, was used to assess SFG. The control variables were firm size, firm age, and long-term debt to total assets. This analytical approach offers empirical justification for the study of the effects of IC and CSR on SFG.

This research contributes to the literature on IC and SFG in several ways. Firstly, this study enriches the existing literature on IC by showing how it affects SFG, rather than the usual emphasis on firm performance. Second, current research points out how CSR can improve the SFG of a firm, which demonstrates its possible use as a strategic instrument. Third, this study contributes to the body of literature on IC in the context of CSR, providing clues on how non-financial firms can combine them to achieve sustainability. Fourth, this empirical study evidence that CSR can enhance the relationship between IC and SFG, which contributes to a better understanding of the mediation process. Lastly, our research provides a contextual approach to IC and CSR in Pakistan, a developing economy, to the strategic role of such intangible assets in promoting financial sustainability.

From a practical standpoint, the research has significant implications for stakeholders (i.e., business leaders, policymakers, and investors). Companies should involve investments in developing IC in terms of employee training (HC), improving the processes within the company (SC), and involving supplier and customer relevant relationships (RC). Also, businesses should look into ways to implement CSR strategies into the operational activities of the organization to improve brand reputation, stakeholder trust, and long-term financial sustainability. Relevant stakeholders of the business, e.g., policymakers, can use the findings of this research to develop policies that promote IC-led and CSR-based strategies of sustainable economic growth. Possible Investors could judge the involvement of businesses in IC and CSR strategies as one of the primary indicators of the business potentially being a financial success that will play a role in determining investment decisions.

The organization of this paper follows: Part 2 provides the theoretical framework for the research, Part 3 provides the literature review, Part 4 provides the research methodology, Part 5 provides the findings, and Part 6 concludes the study.

2. Theoretical Background

Previous studies on the relationship between IC and financial performance have relied on various theories, including the Knowledge-Based View, which focuses on how knowledge plays a role in value creation, and the Dynamic Capabilities Theory, which is concerned with how a firm adapts and utilizes its resources (Aljuboori et al., 2021; Ali et al., 2022; Farooq & Ahmad, 2023; Ramírez et al., 2021). Similarly, earlier research on the association between CSR and financial performance has been founded on theories like Legitimacy Theory, which espouses that CSR is a means to gain acceptance from society, and Agency Theory, which describes the conflict of interest faced by managers and shareholders about CSR expenditures (Kuo et al., 2025; Abdullah et al., 2024). This research primarily relies on two theories - RBV broadly indicates how IC, as a unique and significant intangible resource, contributes to SFG (Naeem et al., 2024), while Stakeholder Theory helps to contextualize the case for CSR as it pertains to the significance of multiple stakeholders in the value of SFG, through the rents they receive (Farooq et al., 2023).

This study is based on two theoretical frameworks (RBV and Stakeholder Theory). The first aim, which focuses on the role of IC in SFG, is in line with the RBV. According to this view, a firm that has a high HCE, SCE, and RCE is in a better position to become financially sustainable in the long-term, especially when these resources are rare or inimitable, as it would have been in the unique institutional setting of Pakistan (Shahbaz and Malik, 2025). The second goal is the mediating role of CSR, which is aligned with the Stakeholder Theory, which explains that CSR helps to build stronger relationships with the stakeholders, including customers, investors, and regulators. Such an improved stakeholder engagement is capable of stabilizing the revenue, minimizing risk, and lowering the cost of capital, which can lead to greater financial sustainability. Combining these frameworks, the paper offers an all-inclusive method of learning about how IC may be used as a driver of SFG and how CSR may be using IC strategically to make non-financial firms in Pakistan sustainable.

3. Literature Review

3.1 Intellectual Capital

A driver of value creation, competitive advantage, and sustainability is IC, a non-tangible asset that emerged in the early 90s (Jordão et al., 2025; Edvinsson and Malone, 1997). IC consists of three components: HCE, SCE, and RCE. First, HCE reflects the knowledge of employees and their capacity to innovate (Yang et al. 2025), SCE represents the internal organizational cultures and processes that promote efficiency (Ali et al., 2022), and RCE symbolizes the relationships between stakeholders and the possibilities to build the business further (Anser et al., 2024).

3.2 Sustainable Financial Growth

SFG reflects the capacity of the company to maintain long-term financial stability and resilience, as well as adaptable responses to the shift in the market environment (Hussain et al., 2024). It is unlike short-term financial performance because SFG is concerned with ensuring that revenues are always

stable, financial risks are mitigated, and that resources are used optimally to maintain profits (Kulkarni et al., 2024). Strategic financial planning ensures that firms with SFG have a balanced attitude towards profitability, liquidity, and investment in innovation at the expense of cost effectiveness, thus offering long-term viability in the process of creating and sustaining shareholder value (Akhtar et al., 2022; Chen et al., 2023).

3.3 Corporate Social Responsibility

CSR became a priority in Pakistan in the 2000s, with multinational companies largely taking it up (Malik, 2014). In reference to an organization, CSR is its commitment to ethical behavior, social well-being, and environmental sustainability in general, not just its legal or financial obligations (Farooq et al., 2023). This includes initiatives in charity, labor practices, environmental care, and community service (Kandpal et al., 2024). An organization's CSR activity involves transparency, ethics, and responsibility in carrying out its business, allowing the company to strengthen its credibility with its stakeholders (Aldalaty & Piranej, 2024). CSR responsibilities typically fall into four spheres: economic, legal, ethical, and philanthropic responsibilities; therefore, these corporate responsibility initiatives allow organizations to use a socially responsible approach to their business while facilitating long-term societal development (Naeem et al., 2023). CSR allows organizations to tangibly put corporate social responsibility into their core strategies; while businesses can introduce objectives and find solutions to prevalent societal problems, they can do this without sacrificing the integrity of core business objectives or performance.

3.4 Hypotheses Development

3.4.1 Intellectual Capital and Sustainable Financial Growth

IC has been recognized as an important driver of a firm's financial sustainability in knowledge-intensive industries. Previous studies (Obeidat et al., 2021; Khan et al., 2019; and Farooq and Ahmad, 2023) have studied the connection between IC and measures of FP and economic competitiveness, but have largely ignored the potential direct relationship with SFG. Most studies suggest that firms with strong HCE (skilled personnel), SCE (effective processes), and RCE (networks with relevant stakeholders) will outperform firms in terms of FP and market share (Khattak et al., 2024; Mention and Bontis, 2013). Financial sustainability, however, involves more than short-term profits, as firms must pursue continued economic growth, manage financial risks, and respond to economic shocks (Samborska et al., 2023). While Farooq and Ahmad (2023) proposed a positive relationship between IC and FP and investigated the overall impact of IC on FP. So there is a gap to investigate the effects of IC components on SFG.

Furthermore, conventional financial growth primarily ignores all the benefits of intangible resources, such as IC, and focuses on material assets and physical investments. Ahmad (2024) posited that organizations engaged in strong knowledge management systems and innovation tend to achieve a higher degree of financial sustainability through efficiencies of operation, reduced costs, and improved risk management. Prior studies addressed IC and financial performance without addressing the relationship between IC and SFG, which identified research gaps in how IC can affect SFG in developing economies, which tend to experience challenges such as limited resources, regulatory pressures, and volatile markets.

Based on literature the following hypotheses are formulated:

H1a: Human capital efficiency has significant effects on the sustainable financial growth of firms.

H1b: Structural capital efficiency has significant effects on the sustainable financial growth of firms.

H1c: Relational capital efficiency has significant effects on the sustainable financial growth of firms.

H1d: Capital employed efficiency has significant effects on the sustainable financial growth of firms.

3.4.2 Corporate Social Responsibility and Sustainable Financial Growth

The relationship between CSR and FP, reputation, and stakeholder engagement has been researched rigorously; yet, the potential role of CSR and CSR practices for SFG seems to be underexplored. Taghian et al. (2015) state that CSR initiatives develop brand loyalty, increase trust among investors, and increase institutional compliance. All of which ultimately benefit a firm's financial situation (although CSR may provide indirect benefits to FP). Financial sustainability requires long-term, stable growth, rather than simply quarterly or annual profitability. Hence, a need to expand research to directly address the influence of CSR on long-term revenue generation, reduction of financial risk, and resilience (Lv et al., 2019). Kim et al. (2021) speculated that while CSR exerts some additional costs that may produce lower current financial returns, others have found that socially responsible firms are less financially volatile than others and may provide greater market stability in the long run (Naeem et al., 2023). With such differing stances on CSR and SFG, it is clear that further research in developing economies (e.g., Pakistan) is limited, and there is a need for research to provide a deeper understanding of CSR practices and the relationships to sustainable financial stability.

Additionally, even though prior studies emphasize the impact of CSR on FP and shareholder value (Audi & Yu, 2024; Farooq et al., 2025), nearly all of them fail to explore the long-term role of CSR in achieving financial sustainability. While organizations that engage in environmental, social, and governance (ESG) practices often call ethical investors and long-term partnerships to help sustain a consistent revenue flow and help mitigate risks (Karwowski et al. 2021), research generally has focused on exposing the impact of CSR on FP while ignoring CSR practices that lead to sustainability in FP or financial sustainability in business. Therefore, we propose the following hypothesis:

H2: Corporate social responsibility has significant effects on the sustainable financial growth of firms.

3.4.3 Intellectual Capital and Corporate Social Responsibility

The IC and CSR have received attention in recent years. These two are strategic assets that create value and are critical to the long-term success of the firm. Previous research primarily examined CSR as an outcome of IC while neglecting to explore the effects of IC on CSR. It is reasonable to presume that the components of IC - HCE, SCE, and RCE. These components play dominant roles in engaging in CSR. This is largely because members of the firm's HCE, SCE, and RCE have the requisite knowledge, resources, and stakeholder connections to engage in CSR (Alshukri et al., 2024). HCE is especially important to CSR because employees who have ethical awareness and sustainability experience are essential to influencing the firm to adopt responsible business practices. Businesses that have a strong SCE, i.e., are well governed and have knowledge management systems, emphasize CSR as part of their

strategy rather than as an externality or ancillary activity.

Moreover, RCE, which refers to the level of engagement a firm has with its stakeholders, including customers, investors, regulators, and communities to enact CSR, has been identified as an important facilitator of CSR engagement (Ali et al., 2022). Companies with strong RCE relationships are better able to respond to stakeholder expectations, which leads to more proactive CSR strategies, rather than having to reactively comply and implement CSR initiatives. The above considerations are important, but the literature highlights the concentration on exploring the role of IC on FP, and does not examine the extent to which IC enables firms to commit to and maintain CSR practices over time. In addition, the role of IC to deliver on the enhanced effectiveness of CSR remains under-researched, especially for developing economies. Therefore, this study proposed the following hypotheses:

H3a: Human capital efficiency has significant effects on the corporate social responsibility.

H3b: Structural capital efficiency has significant effects on the corporate social responsibility.

H3c: Relational capital efficiency has significant effects on the corporate social responsibility.

H3d: Capital employed efficiency has significant effects on the corporate social responsibility.

3.4.4 Mediating role of Corporate Social Responsibility

While much research has explored the direct relationship between IC and FP, many scholars have not considered CSR as a potential mediator in this relationship. Scholars maintain that a firm's IC promotes its capacity to engage in CSR due to the resources (knowledge, technology, relationships with stakeholders) it provides to develop socially responsible strategies (Anser et al., 2024). CSR, as a mediator, contributes to the endorsement of the firm's reputation, relational trust, and risk management procedures, and these are all important to advance towards SFG. However, previous studies have explored three of these variables either separately or in combinations, but only very few have examined the CSR relationship with either IC or FP studies. Most previous studies do not examine the question of how CSR serves as a bridge between IC and Long-term financial sustainability. This is of utmost importance because firms in emerging economies like Pakistan seem to have related problems of profit against social responsibility, which is even harder to accomplish with the limited resources they may have and the challenges from institutions. Therefore, this study proposed the following hypotheses:

H4a: Corporate social responsibility mediates the relationship between human capital efficiency and the sustainable financial growth of firms.

H4b: Corporate social responsibility mediates the relationship between structural capital efficiency and the sustainable financial growth of firms.

H4c: Corporate social responsibility mediates the relationship between relational capital efficiency and the sustainable financial growth of firms.

H4d: Corporate social responsibility mediates the relationship between capital employed efficiency and the sustainable financial growth of firms.

4. Methodology

4.1. Study Design

This study focuses on secondary data from non-financial firms listed at the PSX. The study selected this time frame because the United Nations in 2015 issued the Sustainable Development Goals 2030 for all countries. Pakistani firms are also implementing these goals; therefore, the current study focuses on the time from 2016 to 2024 and the panel data techniques used.

4.2. Sample Size

Initially, this research included all firms (non-financial) listed at the PSX. Firms are selected based on this criterion. No mergers and acquisitions in the study period. All variable data should be available in reports. Firms must be operational from 2016 to 2024. After the filtration techniques, 139 firms were selected and unbalanced data collected. These firms comprise textile, food, Sugar, Automobile, synthetic, and rayon industries.

4.3. Variable Measurement

Variable measurements are given below in Table I while detail of index construction of SFG is given below in detail.

The SFG index is constructed in the following steps:

Step 1: Determining the best four financial indicators (profitability, operating capacity, solvency, and development ability) because of the selection made based on previous studies (Ahsan et al., 2021).

Step 2: The measurement of all indicators of the constructed proxies (e.g., ROE, ROA, current ratio, total assets growth rate).

Step 3: Factor analysis is performed to identify the underlying factors (e.g., profitability, operating capacity) that explain the variations of the chosen indicators.

Step 4: The composite index is then created by using a weighted sum of the identified factors, and the weighted sum is created by using the factor loading presented in the principal component analysis.

Step 5: According to the findings of the factor analysis, the SFG index is calculated as the weighted mean of four factors.

Table I: Measurement of Variables

Sr.	Variables	Measurement
1	Dependent Variable	
	Sustainable Financial Growth	It is measured in the form of an index. The index consists of profitability, operating capacity, solvency, and development ability (Ahsan <i>et al.</i> , 2021).
	a) Profitability	It is measured through these two proxies, i.e., return on assets and return on equity.
	i) Return on Equity	Total income over total assets
	ii) Return on Equity	Total income over shareholders' equity
	b) Operating capacity	It is measured through two proxies, i.e., total assets turnover and accounts receivable turnover.
	i) Total assets turnover	Operating income over total assets

	ii) Accounts receivable turnover	Operating income over accounts receivable
	c) Solvency	Solvency is measured through three proxies, i.e., current ratio, quick ratio, and cash ratio.
	i) Current ratio	Current assets over current liabilities
	ii) Quick ratio	Current assets minus inventory. The difference of these divided by current liabilities
	iii) Cash ratio	Cash and cash equivalents over current liabilities
	d) Development Abilities	It is measured through two proxies, i.e., total assets growth rate and net assets growth rate.
	i) Total assets growth rate	Total assets at the end of the year minus the total assets at the beginning. The difference of these divided by the total assets at the beginning.
	ii) Net assets growth rate	Assets at the end of the year minus the net assets at the beginning of the year. The difference of these divided by net assets at the beginning.
Independent Variable		
2	Human Capital Efficiency	Value added over human capital
	i) Value Added	Net sales minus total expenses
	ii) Human capital	Employee costs
3	Structural Capital Efficiency	Structural capital over value added
	i) Structural Capital	Value added minus human capital
4	Relational capital efficiency	Relational capital over value added
	i) Relational capital	Summation of marketing, selling, promotion, and donation expenses
5	Capital employed efficiency	Value added over capital employed
	i) Capital Employed	Total assets minus intangible assets
Mediator		
6	Corporate social responsibility	Expenditure of donations, employee welfare funds, and research and development is divided by net revenue (Ehsan, 2018; and Pyo & Lee, 2013).
Control Variables		
7	Firm Size	Log of total assets (Khan <i>et al.</i> , 2014).
8	Firm Age	Log of the number of years since the commencement of business of the firm (Diez <i>et al.</i> , 2010).
9	Long-term debt to total assets	Proportion of long-term debt over total assets (Chandra & Juliawati, 2020).

Source: Authors' own work

4.4 Econometric Model

This study designs these equations based on hypotheses.

Model 1 (Intellectual Capital and Sustainable Financial Growth)

$$SFG_{it} = \beta_0 + \beta_1 HCE_{it} + \beta_2 SCE_{it} + \beta_3 RCE_{it} + \beta_4 CEE_{it} + \beta_5 IC_{it} + \beta_6 FSize_{it} + \beta_7 Fage_{it} + \beta_8 LTDTA_{it} + \epsilon_{it}$$

Model 2 (Corporate Social Responsibility and Sustainable Financial Growth)

$$SFG_{it} = \beta_0 + \beta_1 CSR_{it} + \beta_2 FSize_{it} + \beta_3 Fage_{it} + \beta_4 LTDTA_{it} + \epsilon_{it}$$

Model 3 (Intellectual Capital and Corporate Social Responsibility)

$$CSR_{it} = \beta_0 + \beta_1 HCE_{it} + \beta_2 SCE_{it} + \beta_3 RCE_{it} + \beta_4 CEE_{it} + \beta_5 IC_{it} + \beta_6 FSize_{it} + \beta_7 Fage_{it} + \beta_8 LTDTA_{it} + \epsilon_{it}$$

Model 4: Mediating Role of Corporate Social Responsibility

$$SFG_{it} = \beta_0 + \beta_1 HCE_{it} + \beta_2 SCE_{it} + \beta_3 RCE_{it} + \beta_4 CEE_{it} + \beta_5 IC_{it} + \beta_6 CSR_{it} + \beta_7 FSize_{it} + \beta_8 Fage_{it} +$$

$\beta_9 \text{LTDTA}_{it} + \epsilon_{it}$

Note: SFG_{it} is the Sustainable Financial Growth, HCE_{it} is the Human Capital Efficiency, SCE_{it} is the Structural Capital Efficiency. RCE_{it} is the Relational Capital Efficiency, CEE_{it} is the Capital Employed Efficiency. CSR_{it} is the Corporate Social Responsibility, FSize_{it} is the size of the firm. LTDTA_{it} is the Long-term debt to total assets. Fage_i is the Age of the firm, i is firm, t is time. β_0 is constant value, $\beta_1, \beta_2, \beta_3$ to β_8 are coefficients and ϵ_{it} is the error term.

5. Results

5.1. Descriptive result

The descriptive results in Table II provide an overview of variables (minimum, maximum, mean, and standard deviation). The average SFG value is negative (-0.02), indicating that, on average, firms in the sample faced difficulties in sustaining consistent financial sustainability throughout the period of study. CSR is at the average of 0.31, and its standard deviation is large, indicating a significant range in the firms' engagement in CSR activities. IC and its components HCE, have the highest average (4.01), which indicates its primary role in the IC, while RCE has the lowest (0.17), but still averages above zero. The overall IC averages 5.21, indicating an average performance in IC. FS and Fage are consistent, also, with an average size of 7.01 and an average age of 38 years. The LTDTA averages 0.45, which indicates a moderate dependency on long-term financing. Overall, the statistics illustrate heterogeneity across the firms regarding IC, CSR, and SFG.

Table II: Descriptive Statistics

Variable	Obs.	Mean	Std. Dev.	Min	Max
SFG	1251	-0.02	0.48	-0.69	7.01
CSR	1251	0.31	1.92	-0.31	2.71
HCE	1251	4.01	2.63	0.51	15.13
SCE	1251	0.71	0.24	-0.50	0.95
RCE	1251	0.17	0.18	0.09	0.84
CEE	1251	0.51	0.36	0.16	2.40
IC	1251	5.21	2.89	0.83	16.91
FS	1251	7.01	0.55	4.91	8.30
Fage	1251	38.12	15.20	10	88
LTDTA	1251	0.45	0.20	0.11	0.89

Source: Authors' own work

5.2. Correlation result

The Table III presents correlation matrix which demonstrates that no multicollinearity issues exist in dataset. To verify multicollinearity, we run a VIF test. Table IV shows the VIF result, all VIF values are low, below 2, while the mean VIF equals 1.21, which supports that no multicollinearity issue exists in the observed data.

Table III: Correlation Statistics

Variables	SFG	CSR	HCE	SCE	RCE	CEE	IC	FS	Fage	LTDTA
SFG	1									
CSR	0.24*	1								
HCE	0.31**	0.27**	1							
SCE	0.29**	0.23**	0.44**	1						
RCE	0.26**	0.19**	0.40**	0.43**	1					
CEE	0.24*	0.16*	0.37**	0.38**	0.41**	1				
IC	0.33**	0.13**	0.12	0.14	0.10	0.09	1			
FS	0.36**	0.29**	0.18	0.21*	0.17	0.19*	0.48**	1		
Fage	-0.28**	0.21**	0.15	0.16	0.13	0.10	0.41**	0.53**	1	
LTDTA	-0.20*	-0.19*	-0.10	0.08	-0.07	-0.06	-0.33**	0.29**	-0.31**	1

*p < 0.05, **p < 0.01

Table IV: Variance inflation factor

Variables	VIF	1/VIF
IC	1.51	0.66
FS	1.40	0.71
LTDTA	1.29	0.78
CSR	1.22	0.82
HCE	1.20	0.83
SCE	1.18	0.85
Fage	1.11	0.91
CEE	1.09	0.92
RCE	1.07	0.93
SFG	1.03	0.97
Mean VIF	1.21	

Source: Authors' own work

5.3. Regression results

The results of the Hausman tests for model selection between fixed effects or random effects are presented in Table V. Throughout all four models, the p-value is below 0.05, suggesting that the fixed effects models should be selected. Thus, we will analyze all specifications in the fixed effects model.

Table V: Hausman test

Variables	Model 1 (SFG)	Model 2 (SFG)	Model 3 (CSR)	Model 4 (SFG)
Chi2(6)	25.20	17.51	24.71	31.26
Prob>chi2	0.0001	0.002	0	0
Model	Fixed effect	Fixed effect	Fixed effect	Fixed effect

Source: Authors' own work

Table VI: Regression results

Variables	Model 1 (SFG)	Model 2 (SFG)	Model 3 (CSR)	Model 4 (SFG)
HCE	0.063*** (0.293)		0.661** (0.613)	0.723*** (0.149)
SCE	0.041** (0.273)		0.214* (0.510)	0.147** (0.327)
RCE	0.567*** (0.835)		0.432** (0.340)	0.319*** (0.246)
CEE	0.170** (0.821)		0.117** (0.492)	0.283** (0.217)
IC	0.896** (0.329)		0.372*** (0.055)	0.0423** (0.195)
CSR		0.082*** (0.259)		0.0395** (0.425)
FS	0.163** (0.407)	0.209*** (0.062)	1.237* (1.209)	0.0931** (0.052)
Fage	0.031* (0.019)	0.0421 (0.054)	10.327** (0.521)	0.0029* (0.018)
LTDTA	-0.060 (0.031)	-0.229*** (0.195)	2.431 (5.062)	-0.0124* (0.075)
Constant	1.154** (0.631)	2.483* (0.628)	2.517 (0.032)	0.693 (0.703)

Model	Fixed effect	Fixed effect	Fixed effect	Fixed effect
Obs.	1251	1251	1251	1251
R-squared	0.23	0.29	0.14	0.27
No. of coid	139	139	139	139

Source: Authors' own work

This study investigates the effect of IC and its components on SFG, CSR, and the mediating role of CSR between IC components and the SFG nexus. Although the study aids in the partial mediation, it does not affirm a complete transformation of IC into financial sustainability through CSR. The findings of the hypotheses in Table VI are as follows:

Model 1: All the elements of IC HCE, SCE, RCE, and CEE had significant and positive relationships with SFG. It is also worth noting that RCE was the most influential one, indicating that Pakistani firms capitalize on their intellectual resources, specifically relational capital, to create competitive advantages to attain financial sustainability in the long-term. This helps in supporting the RBV, which hypothesizes that a competitive advantage and sustainability outcomes are a result of valuable and unique resources such as IC, and thus affirms H1.

Model 2: CSR was found to have a significant positive effect on SFG, which supported H2. The results imply that the CSR practices can create a favorable image, reputation, and relationship between a firm and its stakeholders, which subsequently leads to financial sustainability in the long-term. Such findings are in line with the Stakeholder Theory that argues that when stakeholder interests are addressed via CSR, it would serve to legitimize the organization, hence lead to sustainability.

Model 3: The elements of IC had a significant impact on CSR, and HCE and RCE had the strongest effects. This means that the stronger a firm is in terms of IC, the more it is likely to take part in CSR activities, which substantiates H3. These findings correspond with the RBV, according to which companies make use of their resources that are distinct to achieve a competitive advantage, which involves taking part in CSR in order to enhance their brand image and social legitimacy.

Model 4: CSR mediates partially between IC and SFG; it satisfies all the conditions of the mediation model developed by Baron and Kenny (1986). The findings mean that although IC and CSR both have a significant impact on SFG, CSR partially mediates this relationship. This partial mediation implies that though CSR is a significant aspect of amplifying the effect of IC on SFG, it does not make the IC fully turn into financial sustainability. This observation conforms to the RBV as well as the Stakeholder Theory, which proposes that the strategic utilization of internal capacities by way of the CSR activities has a positive influence on sustainable growth.

5.4. Robustness

The findings of the GMM estimation in four models, as discussed in Table VII covers both the issues of endogeneity and robustness. Diagnostic tests, i.e., the Arellano-Bond AR(2) p-values, are systematically greater than 0.05, which is the result of no second-order autocorrelation, and this corresponds to the assumptions of the test. Moreover, the Hansen J-statistics show non-significant p-values (-0.25 to 0.35), which proves that no over-identification of instruments employed in the GMM estimations occurred in all the models. The results of these investigations confirm the validity of the GMM model in determining endogeneity and getting strong results.

The large positive coefficient of the lagged dependent variable across all models justifies the dynamic character of SFG, which means that the past financial performance affects the future sustainability practices positively. These elements of IC demonstrate a powerful and meaningful impact on SFG and CSR, which supports the significance of intangible resources to financial growth. The positive effect of CSR on SFG in Model 2 and the mediating effect of CSR in Model 4 demonstrate the strategic role of CSR between IC and financial sustainability.

Also, firm-specific controls, including FS and Fage, are always positive, whereas the LTDTA demonstrates mixed results in all models. In general, these results give strong empirical evidence on the importance of CSR and IC in facilitating SFG.

Table VII: Regression result

Variables	Model 1 (SFG)	Model 2 (SFG)	Model 3 (CSR)	Model 4 (SFG)
Lagged of Dependent	0.283***	0.382***	0.280***	0.274***
	-0.0151	-0.0163	-0.015	-0.0151
HCE	0.127***		0.559***	0.521***
	-0.021		-0.062	-0.06
SCE	0.056*		0.0210**	0.134**
	-0.0224		-0.0105	-0.058
RCE	0.821***		0.0427*	0.107***
	-0.0779		-0.0433	-0.021
CEE	0.0151*		0.0688*	0.0637***
	-0.0453		-0.022	-0.022
IC	0.184***		0.790***	0.777***
	-0.0491		-0.0771	-0.0777
CSR		0.103***		0.0129**
		-0.0381		-0.0443
FS	0.710***	0.127**	0.729***	0.699***
	-0.125	-0.0647	-0.125	-0.125
Fage	0.0904	0.014*	0.119**	0.119*
	-0.117	-0.0995	-0.115	-0.115
LTDTA	-0.0232	0.0592*	0.434	0.41**
	-0.31	-0.223	-0.305	-0.306
Constant	1.634***	0.299	1.482**	1.376**
	-0.595	-0.344	-0.59	-0.587
Industry Effect	Yes	Yes	Yes	Yes
Year Effect	Yes	Yes	Yes	Yes
AR(2)-p value	-0.57	-3.52	-5.37	-4.55
	-0.07	0	-0.04	0
AR(2)-p value	0.32	0.101	0.56	0.43

	0.56	0.28	0.41	0.33
Hansen's J (p-value)	0.32	0.25	0.34	0.35
Observations	1251	1251	1251	1251
No. of companies	139	139	139	139

Source: Authors' own work

6. Conclusion

This paper examined the effect of IC on SFG, with the mediating role of CSR in Pakistani firms. This empirical study finds an answer to the question of the role played by intangible assets in making a company sustainable. The research is rigorous and generalizable within a local setting because of using a panel dataset (2016-2024) of 139 firms in Pakistan. The correlation analysis and the descriptive statistics indicate that there is a positive correlation between the variables. The Hausman test indicates that fixed-effects models are appropriate for the analysis, which was robust. The regression results indicate that, in total, all components of IC had significant impacts on CSR and SFG, and that CSR had a positive impact on SFG, suggesting that it partially mediates the relationship between IC and SFG. The regression results are analyzed with theoretical lenses such as RBV and Stakeholder Theory to suggest that firms that have developed capacities to utilize intangible assets and practice social responsibility achieve SFG.

There are several contributions made to the literature from the study. Firstly, this study enriches the existing literature on IC by showing how it affects SFG, rather than the usual emphasis on firm performance. Second, current research points out how CSR can improve the SFG of a firm, which demonstrates its possible use as a strategic instrument. Third, this study contributes to the body of literature on IC in the context of CSR, providing clues on how non-financial firms can combine them to achieve sustainability. Fourth, this empirical study evidence that CSR can enhance the relationship between IC and SFG, which contributes to a better understanding of the mediation process. Lastly, our research provides a contextual approach to IC and CSR in Pakistan, a developing economy, to the strategic role of such intangible assets in promoting financial sustainability.

The research has valuable policy implications for both the stakeholders of the business and policymakers. It has been suggested that companies strategically invest in IC, especially HCE and RCE, as these are the resources that not only favor short-term business performance but also facilitate CSR, which, in its turn, leads to long-term financial sustainability. Business executives ought to realise that CSR is an important mediator that can transform intangible capabilities into sustainable growth instead of the cost of CSR. To policymakers, particularly in the emerging markets such as Pakistan, these results indicate that the government can have a central role in encouraging businesses to invest in both IC and CSR. Policy makers may come up with specific incentives to stimulate companies to develop their intangible assets and be socially responsible by offering tax breaks or subsidies. The strategy would not only ensure the growth of the business but also ensure the social and economic growth spread. Socially, the study has shown the beneficial effects of socially responsible behavior on the stakeholders (investors, employees, and communities). Companies that practice CSR not only provide support to the social well-being but also to themselves and their sustainability. In terms of stakeholders, the paper highlights the

importance of ensuring that firms are transparent and accountable in their practices. In addition, the research can also contribute to the discussion of the Sustainable Development Goals (SDGs) in general and SDG 8 (Decent Work and Economic Growth) and SDG 9 (Industry, Innovation, and Infrastructure) in particular by showing how knowledge and responsible business practices may help to achieve financial sustainability in the long term.

There are a number of limitations in this study. First, it concentrates on non-financial Pakistani firms, which precludes the generalization of its results to other sectors or areas. Second, panel data is strong, but the secondary data based on annual reports comes with the risk of bias because of the variation in reporting between firms. Thirdly, CSR is addressed as a unidimensional mediator, assessed as a ratio of CSR expenditures (donations, employee welfare, R&D) to net revenue, which might not be the best measure of qualitative characteristics of CSR (long-term strategic integration, perception of the stakeholders). The further studies ought to take into consideration the multi-dimensional CSR measures to make a more profound evaluation. Also, the study fails to examine moderating variables including innovation capacity, market competition or regulatory environments, which would further inform the relationship between IC and SFG. Future researches might use same models in emerging economies, use mixed methods to collect qualitative data, or investigate longitudinal characteristics of IC and CSR practices to improve their insight into the strategic usefulness of these practices in attaining long-term results.

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