

## CEO Human and Social Capital and Firm Performance: Empirical Evidence from South Asian Banking Industry

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### Abstract

This study aims to examine the impact of human and social capital attributes of CEOs on the firm performance of the banking industry in South Asia. Using sample from the banks listed in Dhaka Stock Exchange (DSE), National Stock Exchange (NSE), Pakistan Stock Exchange (PSX), and Colombo Stock Exchange (CSE) from 2016 to 2023, this study employs feasible generalized least square regression (FGLS) technique to explore the impact of CEO's human and social capital (CHSC) on corporate outcomes. The study outcomes provide evidence that CHSC has an effect on firm performance and, to a distinct extent, underscores its strategic significance in corporate governance. We find that female CEOs produce adverse effects, while academic, professional, and foreign credentials of CEOs enhance firm performance. Experiences and social networks of CEOs boost accounting measures but reduce market measures. This research contributes to the scarce literature on corporate governance in emerging markets. The findings suggest how CHSC components facilitate making effective decisions, properly monitoring managerial activities, gaining access to required external resources, information, cutting-edge technology, and also achieving a competitive advantage that influences firm performance. The outcomes also offer practical implications for policymakers and regulators to devise corporate governance mechanisms by focusing on those CHSC elements that point out a positive impact on corporate measures. This study also offers insights for shareholders, investors, and analysts in making investment decisions and predicting firm outcomes by analyzing the CHSC features, particularly in the banking industry of an emerging markets like South Asia.

**Keywords:** CEO human and social capital, Firm performance, South Asia, Banking industry, Human capital theory, Social capital theory

### 1. Introduction

Corporate leadership, especially CEOs, strives to shape and implement strategy, oversee management activities, maintain day-to-day operations, ensure steady growth, serve as a bridge between the boardroom and senior executive level, and ultimately enhance the short-term and long-term firm performance. Among senior executives, the CEO's human capital and social capital, such as education level, educational background, institution, experience, and network, have been viewed recently as a critical instrument of firm performance. Empirical studies examined the impact of CHSC on firm performance, mainly

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in the context of developed or upper middle-income countries (Mundi, 2024; Romano et al., 2020; Cao et al., 2016). That's why such a type of study remains absent in emerging economies, specifically in South Asia. Though the business environment, corporate governance state, structure of financial markets, and human capital index, such as education level, differ between developed countries and emerging countries. So, we cannot generalize the findings in developed economies to emerging economies as well. As a result, this study aims to fill this gap by examining how the CHSC elements can influence firm performance in emerging economies, specifically banking industry in South Asia.

Banks play a pivotal role in forming capital by facilitating investment, financial inclusion, and economic growth. However, the banking sector in South Asia experiences many corporate scandals such as Hallmark scam involving Sonali Bank in 2010-11, the Basic Bank loan scam from 2009 to 2013, and fraudulent activities in Oriental Bank in 2011, Farmers Bank and Bismillah Group in 2015 (Alam et al., 2025), Punjab National Bank (PNB) and Yes Bank Scam in India (Mehrotra & Kolpula, 2024; Jaiswal & Sharma, 2024), Central Bank Bond Scam in Sri Lanka (Abeyagoonasekera, 2023), Khadim Ali Shah Bukhari (KASB) Bank (2009) and Khanani & Kalia International (2017) in Pakistan (Zaman et al., 2021). Such scams, fraudulent activities, and loan irregularities negatively influence the confidence of investors. The banking industry also suffers from structural inefficiencies, huge non-performing loans, and weak CG mechanisms, playing a negative role in firm performance (Alam et al., 2024). As the economy focuses on the growth and stability of the financial sector, particularly the banking industry, it is deemed a critical issue to guarantee sustainable economic development in this region. In such a condition, the CEOs equipped with latent elements of human and social capital can play a crucial role in navigating complications, ensuring regulatory compliance, and gaining a competitive edge. That's why this study aims to explore how the human and social capital constituents of the CEOs influence the firm performance of the banks listed in South Asia.

Consisting of a sample of 808 firm-year observations for the period of 2016-2023, this research shows the significant impact of CEO's human and social capital on bank performance in South Asian countries. The outcomes are consistent with the empirical studies (Urquhart & Zhang, 2022; Romano et al., 2020; Gupta & Mahakud, 2020; Jادیyappa et al., 2019; Cao et al., 2016). The majority of the earlier studies have been done in the context of developed countries. This study provides evidence of the relationship between CHSC and firm performance in the context of emerging nations. This study employs the FGLS technique to address heteroscedasticity and auto-correlation problems. Before running the FGLS, we perform diagnostic tests for outliers, stationary, heteroscedasticity, and auto correlation to identify the states of the data-set. Though the code of corporate governance in South Asia, such as Bangladesh, India, Pakistan, Sri Lanka, etc., does not address the human and social constituents of the CEOs, evidence suggests a significant impact of human and social capital on firm performance of accounting and market measures, showing both positive and negative outcomes.

This study contributes to the growing body of literature on corporate governance and strategic management by adding new insights from emerging markets. This research

could be a pioneer in exploring the impacts of CHSC elements on both accounting and market measures of stock exchange-listed banks in South Asian markets, outlining a broader picture to test the theoretical concepts of human capital theory (HCT) and social capital theory (SCT), as well as the relationship between these independent and dependent variables. It provides evidence on how CHSC becomes pertinent in developing markets, like developed nations. While prior studies mainly focused on non-financial sectors, especially in developed countries, this study contributes to the existing body of literature by investigating this intricate relationship in the financial sector in emerging economies. Besides, earlier researchers conducted their studies based on a specific country context; however, the present study includes cross-country data to produce more robust results for a particular region, contributing to the corporate governance literature of comparable economies. Finally, this study helps regulators, policymakers, and governments by devising corporate governance mechanisms that enable firms to recruit CEOs with human and social capital elements that could enhance firm performance. To contribute in the literature of corporate governance specifically in emerging country perspective, this study aims to investigate the impact of CEO human and social capital on firm performance banking industry in South Asia.

The remaining parts of this paper have been structured in the following ways:

Section two explains the theoretical framework and reviews the relevant literature that helps formulate the hypotheses. Section three describes the research methods, including study sample and study period, data and variables, modelling, and econometric analysis. Section four summarizes the data analysis and findings, while section five presents the discussion of findings and the theoretical and practical implications of the study. Finally, section six presents the conclusion, limitations, and future directions of the research.

## **2. Literature Review with Theoretical and Empirical Components**

This study is grounded on human capital theory and social capital theory. HCT delineates that human capital includes leadership style, education, professional expertise, international exposure, and experience that enhance the productivity and earnings potential of individuals, ultimately increasing firm performance (Becker, 1964). Human capital has been described by the abbreviation KSAs, implying the knowledge, skills, and abilities embodied in people (Coff, 2002). Firms with human capital can gain competitive advantages over their competitors (Nguyen *et al.*, 2017), which helps to enhance corporate outcomes. Francis *et al.* (2015) noted that firms with more educated directors get more valuable guidance and effective monitoring, which contributes to ensuring good governance and decreasing agency costs. HCT asserts that CEOs qualified with higher academic, professional or foreign credentials, experience, etc. have superior analytical and strategic decision-making capacity, and could help add value to firm performance. Empirical studies point out that CEOs' academic credentials, for example post-graduate, professional, and foreign degrees, and extensive experience, play pivotal role in corporate performance, both accounting performance, such as ROA, ROE, and market-based performance, such as Tobin's Q (Fedyk & Hodson, 2023; Naseem *et al.*, 2019).

Similarly, the SCT, developed by Bourdieu (1986), suggests that professional networks, board interlocks, and industry effects help entry into critical resources, partnerships, and operational efficiency. The underpinnings of SCT delineate that social network and connectivity contribute to people and firms gaining access to valuable resources (Nahapiet & Ghoshal, 1998). Social capital is generated when directors sit on the boardroom of multiple firms, creating networks and exchanging resources, information & technology that ultimately enhances firm performance (Ramsawak et al., 2024). As the CEO becomes part of both governance and management, the CEO's social capital significantly impacts corporate measures. Holding multiple directorships, the CEO's can leverage both their individual-level and board-level social capital. Such interlocking directorates of the CEO's can pave the way to getting access of critical and invaluable resources, important information, and opportunities for collaboration, contributing to enhancing firm performance and innovation (Ramsawak et al., 2024; Sun et al., 2023). An excessive network with many firms may produce adverse effects on firm performance, such as enhanced risk-taking, decreased transparency, or less concentration, on focal firms (Mundi, 2024; Duong et al., 2024; Devos et al., 2009). The social network of CEOs can create both positive and negative effects depending on the extent of the network.

### **2.1 CEO Gender Diversity and Firm Performance**

CEO gender is an instrumental variable that explores the impact of CEO features on firm performance. HCT suggests that gender diversity brings changes in leadership styles and decision-making approaches. Women's participation in corporate boards benefits firms due to their access to vital resources through their skills, expertise, knowledge, and leadership styles, which are different from those of male directors (Hillman et al., 2007).

Earlier studies demonstrate that female leadership plays a significant role in improving firm performance by enforcing corporate governance norms, minimizing risk, and engaging stakeholders (Chen et al., 2023). To explore the complex relationship between CEO gender diversity on corporate boards and firm performance, most empirical studies showed a mixed outcome, such as a positive between CHSC and firm performance (Barman & Mahakud, 2025; Nguyen et al., 2015), a negative relationship (Hernandez-Nicolas et al., 2022; Jadiyahappa et al., 2019), and an insignificant tie (Khan & Vieito, 2013).

Hence, we can conclude that earlier studies have delivered inconclusive results. That's why this study further investigates whether CEO gender diversity plays a significant role in bank performance in South Asia, in light of the regional sociocultural and contextual dynamics. Based on the outcomes of earlier studies and the underpinnings theories, this study postulates the following hypothesis:

**Hypothesis 1:** *CEO gender diversity significantly impacts the firm performance of the banking industry in South Asia.*

### **2.2 CEO Postgraduate Education and Firm Performance**

The core concept of HCT reveals that higher education increases cognitive skill, strategic analytical ability, and decision-making efficiency (Becker, 1964). Education plays the key role in improving CEOs' competency in making sound financing and investing decisions.

CEOs' formal education influences their investment decisions and improves firm performance (Naseem et al., 2019). King et al. (2016) demonstrated that CEOs with formal academic credentials use more innovative and unique business models and strategies in securing a solid financial state in the market. The stock market showed positive feedback and furnished returns while selecting a CEO with advanced educational achievements (Bhagat et al., 2010). CEOs with MBA or PhD degrees help improve their sound analytical skills and strategic decision-making capacity, contributing to proper financial oversight and innovations (Barker & Mueller, 2002). CEOs having doctoral degrees demonstrate exploratory mindsets and inclinations to foster corporate innovation, leading to higher patent value, better long-term performance, and less management focus (He & Hirshleifer, 2022).

Many empirical studies examined the association between CEOs' higher degrees (MBA and PhD) and firm performance and found mixed results. The stock market responds positively when a firm has a CEO with a postgraduate degree (Ghardallou et al., 2020). CEOs with MBA and PhD degrees impact firm performance positively in both accounting and market measures (Urquhart & Zhang, 2022; Shen et al., 2022). However, Gottesman and Morey (2010) found an insignificant positive tie between CEO education and firm performance in the USA. This outcome aligns with the outcome of Bhagat et al. (2010). Thus, the inconclusive results suggest a need for further investigation of the impact of CEO education on firm performance. The majority of the results of prior studies and the HCT theory motivate us to develop the following outcomes:

**Hypothesis 2:** *A CEO with postgraduate degrees plays a significant role in the performance of the banking industry in South Asia.*

### **2.3 CEO Professional Qualifications and Firm Performance**

An effective board should welcome skilled, qualified, and business professionals to make prudent strategic decisions (Naheed et al. 2022). Since CEOs hold the most impartial post in a business firm, their Professional qualifications in business, economics and law fields help firms to borrow and obtain financing (Booth & Deli, 1999), significantly influence in reducing agency problems by effective monitoring of management functions (Jensen, 1986; Shleifer & Vishny, 1997), and deliver appropriate guidance to managers for effective and efficient operations (Jensen, 1986). Professionally qualified CEOs try to devise stricter financial controls, effective capital allocation, and compliance with relevant laws and regulations (Custódio & Metzger, 2014). An empirical study asserts that CEOs with professional qualifications in the finance stream can impact firm performance (Gupta & Mahakud, 2020). Contrarily, Lindorff and Prior Jonson (2013) stated that CEO's business education shows an insignificant tie with financial performance.

Top executives with legal expertise, obtained education in law and/or practice in law, show prudence to transactions having legal risks, and highly aware of impending hazards in financial reporting; their expertise helps influence the behavior of management teams while making relevant strategies and decisions, ultimately minimizing legal risks and improving firm financial performance (Philip & Wanggao, 2022). In a highly competitive environment and weak governance in South Asia, CEOs with professional degrees may

enhance firm financial outcomes and investor confidence. Based on the above discussion and the underpinnings of HCT, we are encouraged to assume the following hypothesis:

**Hypothesis 3:** *A CEO with a professional degree impacts the firm performance of the South Asian banking industry.*

#### **2.4 Foreign-Educated CEO and Firm Performance**

In developing or underdeveloped countries, a person who obtained an academic credential from a foreign university is considered elite (Baldwin, 1963). Foreign education delivers better access to cutting-edge techniques, enhances problem-solving ability, and leads to diversified perspectives, resulting in enriched employee performance and innovation. Ball and Chik (2001) focus on the constraints of advanced education provision in the home country and the importance of embracing the latest state of science and technology. A person who graduated from a foreign country can be considered intellectually proficient, broad-minded, and skilled in foreign languages (Darmadi, 2013).

Foreign academic credentials contribute to CEOs' warm-up with global best practices, multifarious leadership styles, and cross-border networks. The HCT implies that knowledge gained from developed countries and ranked universities helps CEOs to enrich themselves with the latest knowledge, information, and technology. Again, RDT traces that CEOs with foreign degrees can attract foreign investments, advance corporate governance, and improve operational efficiency (Giannetti & Metzger, 2015). Again, SCT posits that foreign credentials help to build an institutional and professional network. In South Asia, the banking industry closely operates with the global financial system, and CEOs who hold foreign academic credentials adopt the latest technical and transnational partnerships. So, the above discussion and the underpinnings of the theories urge better financial performance from the CEOs with foreign degrees and motivate us to formulate the following hypothesis:

**Hypothesis 4:** *CEOs obtained academic credentials from a foreign university, which significantly influences bank performance in the context of South Asia.*

#### **2.5 CEO Experience and Firm Performance**

In this study, CEO experience refers to the sum of the CEO's functional background, prior CEO experience and CEO tenure in the current firm. We consider the CEO's experience from the start of their career to the observed year, i. e. including CEO experience and earlier experience in previous roles. Koyuncu et al. (2010) observed the robust impact of the CEO's functional background on firm performance. So, the present performance of a CEO not only depends on the knowledge and experience s/he gathered, but also on the skills and competencies acquired while performing jobs in diverse roles during prior service tenure to become the CEO.

Empirical studies revealed both the positive and negative impact of CEO experience on corporate outcomes. Experience contributes to acquiring more knowledge, power, competency, and skills that can effectively lead to enhance the firm financial performance (Ghardallou et al., 2020), and retain the company's expected debt-to-

equity ratio (Naseem et al., 2019). Contrarily, CEOs with prior experience may suffer from a negative shift in learning because their earlier experience may restrict their later outcomes (Ghardallou et al., 2020). Elsaid et al. (2011) found that companies that hired former CEOs tend to have worse financial performance post-succession than companies that hired non-former CEOs. Hahn and Kim (2022) found a curved relationship between managerial experience and firm performance, but a certain level of academic background can enhance firm performance. As the empirical studies produce inconclusive outcomes, the present study aims to investigate the influence of CEO experience and firm performance and assumes the following hypothesis:

**Hypothesis 5:** *CEOs with more experience have a more significant impact on the firm performance of banks in South Asia.*

### **2.6 CEO Social Capital and Financial Performance**

Social capital, represented by multiple directorships known as director interlocks, reflects a CEO's personal or professional network and influence. The core concept of SCT implies that a network entails association between key figures, and it has been apparent that social capital is an instrumental variable of firm performance (Afzali et al., 2021; Yan & Guan, 2018). Social capital arises from social relations with individuals, professionals, and institutions, and these social relations facilitate access to resources and the formulation and implementation of strategic decisions (Sun et al., 2023). Fang et al. (2012) observed the impact of CEO social networks on firm performance. CEO social capital also helps reduce the litigation costs (Zhang et al., 2023).

Contrarily, social capital produces negative results due to over-connectedness, which creates an unnecessary burden on directors and a hurdle to resource provisions for the focal firm, resulting in either adverse or insignificant firm outcomes (Devos et al., 2009). Kiel and Nicholson (2006) supported the above outcomes, and they also found that interlocking directors have an insignificant impact on firm performance in Australia. Fich and Shivdasani (2006) found that over-boarding directors, including the CEO, may face time constraints, decreasing their effectiveness in decision-making. As CEOs play a vital role in forming and executing strategies, running operations, maintaining stable growth, fulfilling demands and monitoring management, they become highly busy with their focal firm/ central company. Sitting on the board of other firms may reduce the performance of the focal firm. Though some studies observed a negative tie, while the concept of SCT and the outcomes of earlier studies encourage the researchers to postulate the following hypothesis:

**Hypothesis 6:** *CEOs with social capital significantly impact the firm performance of banks in South Asia.*

## **3. Research Methods**

### **3.1 Research Nature**

This research is quantitative and employs deductive reasoning as it tests hypotheses on the link between CEOs' human & social capital and firm performance. This research is exploratory, as its core objective is to explore how the human and social capital components of the CEO influence the firm performance of listed banks in South Asia.

### 3.2 Research Sample and Data Collection

We employ multi-stage purposive sampling technique to maintain the similarity in study sample and data availability. First, the study targets listed banks of all countries in South Asia as all countries are similar in culture, financial system, and economic condition. Finally, we excluded four countries in our study because of unavailability of data. Afghanistan has no stock exchange, resulting in missing of listed banks. Nepal, Bhutan, and Maldives don't present CEO human and social capital data in their annual reports. So, our study sample comprises all listed banks in DSE, NSE, PSX, and CSE, mainly due to data availability. The study sample included 35 banks from DSE, 39 banks from NSE, 20 banks from PSX, and 12 banks from CSE for the period of 2016-2023. After excluding missing data, our sample finally consists of 808 firm-year observations. Again, data have been based on secondary sources, majorly from annual reports, that's why we skip non-listed banks as majority of them doesn't publish their full annual reports. The governance and financial data have been collected from annual reports, whereas country-specific data have been collected from the United Nations Development Programme (UNDP).

### 3.3 Variables Measurement

This study considers corporate performance, such as return on assets (ROA), return on equity (ROE), Tobin's Q, and market-to-book ratio (MBR), an outcome variable. We focus on the human and social capital constituents, such as leadership diversity, education, professional qualifications, experience and multiple directorships, as explanatory variables represented by CEO gender diversity, CEOs with postgraduate, professional and foreign degrees, CEO experience, and CEO board interlock.

To make the outcomes prudent, this study considers two board-governance control variables, such as board gender diversity and nomination & remuneration committee (NRC) existence, two firm-specific control variables, such as firm size represented by market capitalization and leverage, and one country-specific control variable, for example, the inequality in 'education index'. This study also takes into consideration year and country fixed effects to minimize the influence of a particular year(s) and a specific country(s). Details of the selected variables are in Table 1.

**Table 1:** Operationalization of the Variables

Variables	Acronym	Measurement	Reference
<b>Dependent Variables (Firm Performance)</b>			
Return on Asset	ROA	Net income after tax divided by the total assets.	Darmadi, 2013
Return on Equity	ROE	Earnings after tax for an accounting period of an entity scaled by the stockholders' equity.	Das et al., 2024
Tobin's Q	Tobin's Q	Market value of shares outstanding plus the book value of debts, divided by total assets.	Das et al., 2024; Darmadi, 2013
Market to book value ratio	MBR	Total market capitalization divided by the book value of equity.	Das et al., 2024; Rashid, 2020

<b>Independent Variable</b>			
CEO Gender Diversity	CEO_GEN	Dummy variable equals 1 if the CEO has a master's degree, and 0 otherwise.	Barman & Mahakud, 2025
CEO Postgraduate Degree	CEO_PGRAD	Dummy variable equals 1 if the CEO achieves a MBA, masters, or PhD degree, and 0 otherwise.	Ghardallou et al., 2020; Darmadi, 2013
CEO Professional Degree	CEO_PROF	Dummy variable equals 1 if the CEO obtains a professional degree in any business disciplines, economics, or law fields, and 0 otherwise.	Gupta & Mahakud, 2020
CEO's Foreign Education	CEO_FOR	Dummy variable equals 1 if the CEO has at least one academic or professional foreign credential, and 0 otherwise.	Darmadi, 2013;
CEO Experience	CEO_EXP	Total number of years in the service career including functional background, prior CEO experience, and tenure as a CEO in his current position and converted into natural log.	Li & Singal, 2017; Hamori & Koyuncu, 2014
CEO Board Interlock	CEO_INTLK	Dummy variable equals 1 if the CEO is on the board of at least one other firm, and 0 otherwise.	Zhang et al., 2023
<b>Control variables</b>			
<b>Board-specific control variables</b>			
Board Gender Diversity	B_GEN	Ratio of female directors to the total directors on the board.	Alam et al., 2025
Nomination and Remuneration Committee Existence	NRC_EXIST	Dummy variable equals 1 if a firm has a nomination and remuneration committee in the firm year, and 0 otherwise.	Zraiq & Fadzil, 2018
Firm Size	MKT_CAP	Natural log of the firm's market capitalization at the end of each firm-year.	Farooq et al., 2022
Leverage	LEV	Ratio of the total debt to the total asset.	Alam et al., 2025
<b>Country-specific control Variables</b>			
Inequality of Education Index	EDUII	Index assigned by the UNDP to a country for a particular year.	

### 3.4 Model Specification

This study examines the impact of the CEO human and social capital on firm performance using a cross-sectional data-set with strongly balanced panel data from 101 banks listed on the DSE, NSE, PSX, and CSE. Using feasible generalized least squares regression, this study tests the relationship between the CEO's human and social capital and firm performance, with some control variables. In this study, performance is a function of CHSC [performance = f (CEO's human and social capital)], in which performance is measured by ROA, ROE, Tobin's Q, and MBR.

The following regression model is used to test the study hypothesis:

$$\text{Firm Performance}_{it} = \beta_0 + \beta_1 \text{CEO\_GEN}_{it} + \beta_2 \text{CEO\_PGRAD}_{it} + \beta_3 \text{CEO\_PROF}_{it} + \beta_4 \text{CEO\_FOR}_{it} + \beta_5 \text{CEO\_EXP}_{it} + \beta_6 \text{CEO\_INTLK}_{it} + \beta_7 \text{B\_GEN}_{it} + \beta_8 \text{NRC\_EXIST}_{it} + \beta_9 \text{MKT\_CAP}_{it} + \beta_{10} \text{LEV}_{it} + \beta_{11} \text{EDUII}_{it} + \text{Year Effect}_{it} + \text{Country Effect}_{it} + \epsilon_{it}$$

Where, 'i' denotes the firm and 't' indicates the year and  $\epsilon$  is the standard error term.

## 4. Analysis and Findings

### 4.1 Descriptive Statistics Summary

**Table 2:** Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
ROA	808	.592	1.648	-25.684	12.664
ROE	808	7.869	22.38	-317.92	171.51
Tobin's Q	808	1.049	.454	.066	10.353
MBR	808	1.236	2.227	-8.442	30.369
CEO_GEN	808	.028	.166	0	1
CEO_PGRAD	808	.813	.39	0	1
CEO_PROF	808	.243	.429	0	1
CEO_FOR	808	.306	.461	0	1
CEO_EXP (Years)	808	32.708	5.528	10	47
CEO_INTLK	808	.493	.583	0	1
B_GEN	808	.134	.102	0	.444
NRC_EXIST	808	.658	.475	0	1
Market Capitalization (mn)	808	330685.96	1212841	508.744	14339189
LEV (Debt to Asset)	808	.9278	.2970	.0444	9.2064
EDUII	808	35.278	9.106	11.296	44.4

Source: Researchers Compilation Based on Data from Sampled Banks' Annual Reports and UNDP (2016-2023)

Table 2 describes the descriptive statistics of all the instruments used in this research to investigate the effects of CHSC and firm performance of the banking industry in South Asia.

To represent firm performance, we use four measures from accounting and market perspectives. ROA shows a mean of 0.59 with a minimum of -25.68 and a maximum of 12.66 percent, respectively, showing a wide divergence in returns among sample firms. The average ROE is 7.87 percent, with a standard deviation of 22.38, implying a huge discrepancy in sample banks. Tobin's Q and MBR average values of 1.049 and 1.236. These two variables also demonstrated huge differences in minimum and maximum values. During the sample period, this region suffered from COVID-19, large amounts of non-performing loans, economic and political crises in some countries, resulting in lower firm performance in the banking industry.

CEOs' human capital is defined by gender diversity, experience, and both academic and professional education. This study found that gender diversity in CEO roles remains low in South Asia, with only 2.8 percent of the observations. CEOs' academic certifications in the South Asian banking industry appear to be very strong, as 81.3 percent of CEOs hold postgraduate degrees. CEOs holding professional degrees in business, economics, and law fields represent 24.3 percent. Foreign degrees earned by banking CEOs demand a comparatively large pay package and other benefits, owing to their credentials, with 30.6 percent holding foreign degrees. As for experience, the average service experience of the CEOs is 32.7 years, ranging from 10 to 47 years, indicating that the majority of CEOs have a long career experience across the sample. The average social capital, measured by multiple directorships, is 0.493, indicating that nearly 50 percent of CEOs hold board memberships in other firms.

Regarding control variables, this study revealed that a minimum of 13.4 percent of corporate board members are female, reaching a maximum of 44.4 percent. The mean value of NRC is 65.8 percent, which implies that the majority of sample firms use this governance mechanism. For firm-level control variables, on average, market capitalization carries BDT 330,685.96 million, and ranges from BDT 508.74 million to BDT 14,339,189 million. A quite larger value of the standard deviation reflects the heterogeneous size of sample firms. Leverage, another firm-level variable, has a mean value of 12.575. Thus, the sample banks have a large amount of debt compared to equity. The education inequality index presents a mean of 35.278 across regions, indicating moderate educational discrepancies, with the range from 11.296 to 44.400.

Some variables of the study, such as ROA, ROE, Tobin's Q, MBR, CEO experience, board gender diversity, market capitalization, and education inequality index, show outliers. That's why this study employs winsorization for those variables at the required level to remove the outliers, with a maximum of a 10 percent level.

## 4.2 Correlation Analysis

**Table 3:** Pairwise Correlation

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
(1) ROA	1.000														
(2) ROE	0.792***	1.000													
(3) Tobin's Q	0.286***	0.216***	1.000												
(4) MBR	0.382***	0.212***	0.921***	1.000											
(5) CEO_GEN	0.003	-0.009	0.041	0.048	1.000										
(6) CEO_PGRAD	0.071**	0.044	-0.041	-0.041	0.082**	1.000									
(7) CEO_PROF	0.032	-0.082**	0.094***	0.115***	-0.045	-0.114***	1.000								
(8) CEO_FOR	0.178***	0.177***	-0.002	-0.006	0.000	0.008	0.038	1.000							
(9) CEO_EXP	0.038	-0.004	-0.101***	-0.039	0.071**	-0.046	-0.041	-0.219***	1.000						
(10) CEO_INTLK	0.015	0.080**	-0.116***	-0.107***	0.085**	-0.047	-0.018	0.223***	-0.137***	1.000					
(11) B_GEN	0.061*	-0.024	0.062*	0.023	-0.070**	-0.054	0.059*	-0.047	-0.003	-0.039	1.000				
(12) NRC_EXIST	0.001	-0.074**	0.152***	0.121***	0.045	-0.252***	0.292***	0.138***	-0.177***	0.264***	-0.002	1.000			
(13) MKT_CAP	0.134***	-0.007	0.549***	0.593***	0.094***	-0.169***	0.212***	-0.114***	0.065*	-0.003	0.030	0.292***	1.000		
(14) LEV	-0.382***	-0.020	-0.284***	-0.255***	-0.004	0.048	-0.125***	-0.130***	0.008	0.101***	-0.206***	-0.225***	-0.184***	1.000	
(15) EDUII	-0.106***	0.062*	0.273***	0.221***	-0.045	-0.008	-0.085**	-0.126***	-0.060*	-0.087**	-0.201***	-0.098***	0.306***	0.293***	1.000

**Note(s):** This table presents Pearson's correlation coefficients between the variables used in the primary regression analyses. Superscripts \* \*\* \*\*\* corresponds to statistical significance at the 10%, 5% and 1% level respectively

**Source:** Researchers Compilation Based on Data from Sampled Banks' Annual Reports and UNDP (2016-2023)

Table 3 presents the Pearson pairwise correlation indicating significant bivariate links between the study variables. CEOs' gender diversity shows an insignificant relationship with firm performance indicators. CEO with postgraduate degree suggests positive and significant ties with ROA, but insignificant ties with other measures. CEOs with professional certification suggest a negative and significant association with ROE but a positive and significant affinity with market measures. Foreign-educated CEOs present a positive and significant relationship with accounting measures while a negative and insignificant association for market measures. CEOs' experiences reveal a negative but insignificant association with all measures except Tobin's Q. CEO social capital showed a significant association with ROE, while revealing a significant negative association with Tobin's Q and MBR. The variables representing CEO human and social capital present a weak bivariate relationship with corporate measures. Control variables show both positive and negative, as well as significant and insignificant, affinity with the firm outcomes.

Table 3 also presents that all pairwise correlation coefficients for the explanatory and control variables are below the specified upper limit of  $\pm 0.80$  (Gujarati, 2009), indicating primarily the absence of multicollinearity issues in the model. To critically assess multicollinearity, the study uses the variance inflation factor (VIF) before testing the research hypotheses in Table 5. VIF values show a maximum of 1.46, indicating the acceptable range of 10 (Gujarati, 2009), with a mean value of 1.20, implying that this study is free from multicollinearity issues.

#### 4.3 Unit Root (Stationarity) Analysis

**Table 4:** Stationarity Test (Levin Lin Chu)

CEO_EXP	-2.4e+02***
B_GEN	-11.4287***
MKT_CAP	-13.2502***
LEV	-16.2079***
EDUII	-8.8795***

**Source:** Researcher's Compilation Based on Data from Sampled Banks' Annual Reports and UNDP (2016-2023)

This study applies the stationarity test to learn whether the data suffers from a unit root problem, which could produce a spurious outcome in the panel regression model. We also employ the Levin-Lin-Chu test, which is widely used for stationarity tests in the panel data set. The outcomes presented in Table 4 reject the null hypothesis and confirm that all continuous variables are stationary at the level.

#### 4.4 Multivariate Analysis

**Table 5:** Regression Results (Ordinary Least Square)

VARIABLES	(1) ROA	(2) ROE	(3) Tobin's Q	(4) MBR	VIF
CEO_GEN	-0.00449 (0.0989)	-0.254 (1.127)	0.00613 (0.00887)	0.0272 (0.0855)	1.06
CEO_PGRAD	0.0676 (0.0436)	0.445 (0.497)	0.00188 (0.00391)	0.00672 (0.0377)	1.14
CEO_PROF	-0.00713 (0.0400)	-0.676 (0.456)	-0.00299 (0.00359)	-0.00525 (0.0346)	1.16
CEO_FOR	0.161*** (0.0374)	2.126*** (0.426)	0.00656* (0.00335)	0.0685** (0.0323)	1.17
CEO_EXP	0.322 (0.245)	2.057 (2.790)	-0.0843*** (0.0220)	-0.483** (0.212)	1.15
CEO_INTLK	0.0749** (0.0302)	0.640* (0.344)	-0.00888*** (0.00271)	-0.0596** (0.0261)	1.21
B_GEN	-0.144 (0.172)	-0.427 (1.957)	0.0329** (0.0154)	0.00543 (0.149)	1.12
NRC_EXIST	-0.173*** (0.0420)	-1.104** (0.478)	4.83e-05 (0.00377)	-0.0860** (0.0363)	1.56
MKT_CAP	0.0642** (0.0267)	0.165 (0.304)	0.0322*** (0.00239)	0.379*** (0.0230)	1.53
LEV_A	-8.823*** (0.690)	-2.179 (7.856)	-0.415*** (0.0619)	-5.198*** (0.596)	1.40
EDUII1	0.000559 (0.00219)	0.0433* (0.0250)	0.00116*** (0.000197)	0.00748*** (0.00190)	1.52
Year Effect	YES	YES	YES	YES	
Country Effect	YES	YES	YES	YES	
Constant	7.800*** (0.844)	4.096 (9.607)	1.148*** (0.0757)	2.513*** (0.729)	
Observations	808	808	808	808	
R-squared	0.272	0.100	0.413	0.473	

**Note(s):** This table reports the regression results of the association between CEO human and social capital and firm performance. Columns 1–4 presents the regression results where the dependent variable (DV) is ROA, ROE, Tobin's Q and MBR respectively. The t-statistics reported in parentheses are based on robust standard errors. Superscripts \*\*\*, \*\*, and \* denote significance at the 1%, 5%, and 10% levels, respectively. The definitions of variables are given in Table 1.

**Source:** Researchers Compilation Based on Data from Sampled Banks' Annual Reports and UNDP (2016-2023)

Table 5 presents the output of multivariate regression outcomes. This study primarily employs Ordinary Least Square (OLS) to investigate the impact of CEOs' human and social capital elements on firm performance of the banks listed in South Asia. The outcome presents that CEOs equipped with foreign degree positively influence firm

performance while the CEO experience shows a negative and significant influence on market measures. The findings also posit that CEO social capital presents a positive significant impact on accounting measures while a negative significant effect on market measures. This study presents the R-squared result of 0.272, 0.100, 0.413, and 0.473 for ROA, ROE, Tobin's Q, and MBR respectively, consistent with the outcome of Alam et al. (2025) and Ali et al. (2022). Moreover, the outcomes from OLS may suffer from autocorrelation and heteroscedasticity problem. To produce more prudent this study further applies model diagnostic tests.

#### 4.5 Normality Test

**Table 6:** Jarque-Bera Normality Test

	ROA	ROE	Tobin's Q	MBR
Jarque-Bera normality test	24.17	29.95	225	127.7
Chi(2)	5.7e-06	3.1e-07	1.4e-49	1.9e-28
Jarque-Bera test for Ho: normality				

**Source:** Researchers Compilation Based on Data from Sampled Banks' Annual Reports and UNDP (2016-2023)

Table 6 shows the outcome of the normality of the residuals of the OLS regression model. This study applies Jarque-Bera test to check the normality and observe that residuals are not normally distributed in all models.

#### 4.6 Autocorrelation Test

**Table 7:** Woolridge Test for Autocorrelation

F(1, 100)	47.321
Prob>F	0.000

**Source:** Researchers Compilation Based on Data from Sampled Banks' Annual Reports and UNDP (2016-2023)

To examine whether the model suffers from autocorrelation, this study employs the Wooldridge test and presents the outcome in Table 7. This study observes an autocorrelation problem in the dataset. To produce a prudent outcome, we consider FGLS to remove the autocorrelation while generating unbiased results.

#### 4.7 Heteroscedasticity Test

For an unbiased result, the error term should be evenly distributed, which is termed as homoscedasticity. To check whether the error term contains heteroscedasticity problems, this study applied the Modified Wald test and found that the p-value is significant at a 1 percent significance level, implying the existence of a heteroscedasticity issue in the error term, presented in Table 8.

**Table 8:** Modified Wald test for groupwise heteroskedasticity

H0: $\sigma(i)^2 = \sigma^2$ for all i	
chi2 (101)	10238.18
Prob > chi2	0.0000

**Source:** Researchers Compilation Based on Data from Sampled Banks' Annual Reports and UNDP (2016-2023)

Since the simple OLS regression models suffer from autocorrelation and heteroscedasticity problems, the outcomes of the OLS describe spurious results. To produce prudent outcomes and adjust autocorrelation and heteroscedasticity this study employs feasible generalized least square regression technique.

#### 4.8 Multivariate Analysis

**Table 9:** Regression Results (FGLS)

VARIABLES	(5) ROA	(6) ROE	(7) Tobin's Q	(8) MBR	VIF
CEO_GEN	-0.153*** (0.0563)	-2.053*** (0.795)	-0.00523 (0.00453)	-0.0905* (0.0547)	1.05
CEO_PGRAD	0.0940** (0.0383)	0.632 (0.398)	0.00545** (0.00272)	0.0483* (0.0283)	1.10
CEO_PROF	0.0193 (0.0344)	-0.122 (0.347)	0.000901 (0.00209)	0.0437* (0.0230)	1.15
CEO_FOR	0.0796** (0.0330)	1.057*** (0.359)	0.00223 (0.00184)	0.0336 (0.0206)	1.15
CEO_EXP	0.319* (0.186)	1.629 (2.204)	-0.0329*** (0.00978)	-0.344*** (0.112)	1.13
CEO_INTLK	0.0255 (0.0231)	0.395* (0.239)	-0.00461*** (0.00173)	-0.0577*** (0.0200)	1.18
B_GEN	-0.0879 (0.133)	-1.316 (1.634)	0.00874 (0.00714)	-0.0189 (0.0881)	1.09
NRC_EXIST	-0.0450 (0.0381)	-0.579 (0.436)	0.00103 (0.00210)	0.0140 (0.0243)	1.46
MKT_CAP	0.192*** (0.0320)	0.798** (0.319)	0.0466*** (0.00205)	0.568*** (0.0210)	1.41
LEV	-0.0202*** (0.00260)	-0.169*** (0.0257)	0.000679*** (0.000165)	0.00605*** (0.00155)	1.17
EDUII1	-0.00405 (0.00257)	0.0792** (0.0314)	-0.000109 (0.000145)	-0.00493*** (0.00146)	1.33
Year Effect	YES	YES	YES	YES	
Country Effect	YES	YES	YES	YES	
Constant	-1.245*** (0.435)	-1.208 (4.615)	0.564*** (0.0266)	-4.248*** (0.274)	
Observations	808	808	808	808	
Number of Firm ID	101	101	101	101	

**Note(s):** This table reports the robust regression results of the relationship between CEO human and social capital and firm performance by using FGLS technique. Columns 1–4 reports the regression results where the dependent variable (DV) is ROA, ROE, Tobin's Q and MBR. The t-statistics reported in parentheses are based on robust standard errors. Superscripts \*\*\*, \*\*, and \* denote significance at the 1%, 5%, and 10% levels, respectively. The definitions of variables are given in Table 1.

**Source:** Researchers Compilation Based on Data from Sampled Banks' Annual Reports and UNDP (2016-2023)

Table 9 presents the output of multivariate regression outcomes. This study employs FGLS to present the CHSC and firm performance affinity by addressing both heteroscedasticity and autocorrelation problems. This study finds that CEO gender diversity posits a negative and significant relationship with both accounting and market measures, aligning with the outcomes of the empirical studies (Jadiyappa et al., 2019; Roy & Basak, 2024; Dilrukshika & Senarathne, 2022).

The advanced academic credentials measured by postgraduate degrees achieved by the CEOs positively and significantly impact both accounting and market performance, except for a positive but insignificant effect on ROE. In line with the core concept of HCT, these results fit the outcomes of earlier studies (Naseem et al., 2019; Darmadi, 2013). Professional qualification shows a positive and significant impact on MBR and conveys trust of investors. We note a significant positive association between CEOs with foreign degrees and accounting performance while an insignificant positive association with market performance, implying that the CEOs having foreign credentials enhance firm performance.

Further, CEOs' experience is an instrument to examine extensively how human capital affects firm performance and observe the mixed outcomes, showing a positive significant tie with accounting measures but a negative significant tie with market measures. These outcomes suggest that experienced CEOs enhance firm performance by utilizing their knowledge from earlier periods, but the market reacts negatively. The reason may be that experienced CEOs may suffer from a negative shift in learning, because earlier experience may hinder their post-outcome (Ghardallou et al., 2020).

To explore the impact of social capital, this study considers CEO's multiple directorships, also known as director interlocks, and demonstrates that CEO's interlocks have mixed outcomes. CEOs with board interlocks boost accounting performance while reducing market performance. This outcome is consistent with the outcome of prior studies (Mundi, 2024). For control variables, the output shows an insignificant effect of board gender diversity on all measures. The reason may be that in emerging countries like South Asian, female participants majorly come from family members and play the role of tokenism (Das et al., 2025). The existence of a NRC does not show a direct effect on firm performance. Further, market capitalization presents a positive and significant impact on both accounting and market performance. Moreover, leverage shows a negative and significant association with accounting measures and a positive and significant association with market measures. Finally, the education inequality index showed both positive and negative associations with firm performance.

## 5. Discussion

This study aims to investigate the effects of CHSC on the bank performance in South Asia. To explore the inextricable relationship between CHSC and firm performance, we consider gender diversity, academic and professional credentials, foreign credentials, total service experience, and interlocks of the CEOs in the banking industry to represent leadership diversity, knowledge and skills gained from institutions and professional engagement, international exposure, cumulative experience, and social capital that can influence firm performance.

Gender diversity has a negative and significant impact on firm performance, confirming the empirical studies (Roy & Basak, 2024; Jadiyahappa et al., 2019). The business context in South Asia has shown predominantly a male-controlled mindset (Batra & Reio, 2016). Our study also posits that female CEOs occupy 2.8 percent of the banking sector in South Asia. Zaidi and Aslam (2006), Das et al (2024), and Nekhili et al. (2018) posit that most firms in South Asia present high family concentration. Whereas, Nekhili et al. (2018) showed that female CEOs perform better in non-family firms. Moreover, empirical studies have indicated that tokenism has a substantial impact on female CEOs in male-dominated industries, as the banking industry (Terjesen et al., 2016). So, female CEOs fail to increase firm performance in the sample firms.

This study found that CEOs with postgraduate degrees play a significant positive role in enhancing firm performance, aligning with the outcomes of the prior studies (Urquhart & Zhang, 2022; Naseem et al., 2019). Bhagat et al. (2010) state that CEO education influences CEO ability in three mutually non-exclusive ways. First, education enhances the CEO's knowledge, skills, and competency to understand technical and abstract concepts. Then, an advanced academic certificate is a sign of the CEO's intellectual capacity to persevere in challenging intellectual activities. Finally, an advanced education contributes to building social networks, which can be helpful professionally in the future.

Moreover, CEOs' professional credentials have a positive but insignificant relationship with firm performance, but a positive and significant relationship with MBR. Danso et al. (2024) set the positive impact of board members' professional expertise in performing their governance roles and enhancing firm performance. An insignificant impact of professional degrees is evident in the South Asian context as CEOs with or without professional certifications recruit Chief Financial Officers (CFOs), company secretaries (CS), legal advisors, financial analysts, and others with adequate financial or legal expertise, so that they can help improve firm performance.

Then, we find a positive and significant tie between CEOs with foreign credentials and firm performance, specifically accounting measures, while presenting a positive but insignificant tie with market measures. It implies that international exposure of the CEOs enhances firm performance. An individual equipped with a foreign degree can be thought of academically adept, open minded, and skilled in foreign languages (Darmadi, 2013).

Moreover, this study observes a positive impact on accounting measures while a negative influence on market measures. This study considers the service tenure, from the beginning to the present time, as the CEO held various roles from the probationary period to the CEO position. In our study, the average service tenure of CEOs is 33 years, indicating that CEOs hold this vital position into their old age. That's why experience reveals mixed outcomes as CEOs with close to retirement focus on current performance measures to convince investors, and CEOs in earlier years focus on long-term performance, specifically market measures (Naseem et al., 2019). Miller (1991) also noted that tenure may have both positive and negative impact on firm performance based on the CEO's life cycle seasons.

Finally, CEO social capital, one of the key instruments of researchers, plays a significant positive role in accounting measures, while a significant negative role in market measures. Prior studies also point out mixed outcomes (Yan & Guan, 2018; Devos et al., 2009). The SCT reveals the essence of networks in building relationships with influential individuals, institutions, and professionals to enhance firm performance (Afzali et al., 2021). As this theory conforms to the accounting measures in the sample firms, the market reacts negatively. The reason may be that CEOs hold a vital role in formulating and implementing strategy, monitoring managerial activities and day-to-day operations, and maintaining the growth of firms. So, investors may consider that sitting on multiple boards by CEOs reduces their concentration in the focal firm and deteriorates the quality of their decision-making. Fich and Shivdasani (2006) also point out the adverse effect of over-connectedness of the external board members on market-to-book ratios. Hence, social capital can help improve accounting performance in the banking industry of South Asia. The market hopes CEOs will focus more on their focal firms and put more effort rather than sitting on the boards of many firms.

## 6. Conclusion

Based on human capital and social capital theory, this research investigates the effect of CEO social and human capital on firm performance of all the listed banks on the DSE, NSE, PSX, and CSE to characterize the emerging economies of South Asia. The empirical findings point out a statistically significant effect of CEO human and social capital on firm performance. The findings imply that banks with female CEO experience negative performance. Consistent with earlier studies and applied theories, leadership diversity through gender diversity on the board, including CEOs, enhances the non-financial performance, such as ESG and CSR, but reduces financial performance, including both accounting and market performance. Advanced education is relevant to the firm's performance and compatible with the underpinnings of the human capital theory. Contrarily, professional qualification does not entail substantial ties with the majority of outcomes, suggesting that other personnel, such as the CFO, CS, or legal advisor, can acquire professional expertise. Moreover, they can achieve international exposure through foreign certifications, which have a positive and significant influence on accounting measures. This outcome conforms to the concepts of both HCT and SCT. Moreover, we find mixed results on the effects of social capital on firm performance, showing a positive impact on accounting performance but a negative impact on market performance. Moreover, CEOs can achieve international exposure through foreign certifications, and such international exposure can significantly impact accounting performance and positively impact market performance.

This study has both theoretical and practical implications. This study combines the concepts of HCT and SCT to examine how CHSC impacts bank performance in South Asia. Our study findings enunciate the impact of CHSC on corporate measures from the perspective of emerging countries, supporting the underpinnings of the discussed theories and contributing to growth of literature on board capital diversity, especially in emerging markets. The outcomes contribute to the board members as well as the nomination and remuneration committee that need to be focused on while recruiting

the CEO, as well as other senior executives. These findings also help the present and potential investors analyze the strengths and shortcomings of CEOs in making investment decisions for the South Asian banking industry. This study would help regulators, policy planners, and the government in devising the qualifications of CEOs and other top executives, including the chief financial officer, head of operations, company secretary, etc., specifically for the banking industry in emerging countries similar to those in South Asia. This research also supports shareholders, investors, and analysts who want to predict the performance of banking firms by examining the CEOs' human and social capital attributes. Finally, it opens the surface of future research to more critically examine the CEO's human and social capital constituents in combination with other variables.

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