
***Impact of Corporate Governance and Intellectual Capital on
Financial Performance : A study of Commercial Banks in
India***

Thesis submitted to the University of Hyderabad in partial fulfillment of the requirement for the award of the degree of

**DOCTOR OF PHILOSOPHY
IN MANAGEMENT**

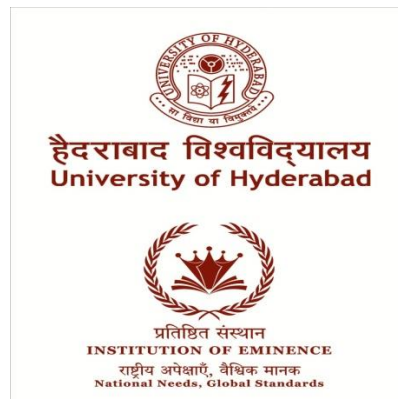
by

SATHISH KOTTE

(Regd No. 17MBPH09)

Under the Supervision of

Prof. IRALA LOKKANANDHA REDDY



SCHOOL OF MANAGEMENT STUDIES

UNIVERSITY OF HYDERABAD

HYDERABAD - 500046

August 2023

DECLARATION

I, Sathish Kotte, hereby declare that the research embodied in the present thesis titled “**Impact of Corporate Governance and Intellectual Capital on Financial Performance : A study of Commercial Banks in India**” is a bonafide work, which is free from plagiarism, for the full period prescribed under Ph.D. ordinances of the University. I also declare to the best of my knowledge that no part of this thesis was earlier submitted for the award of research degree to any university or institution.

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This is to certify that this thesis titled “**Impact of Corporate Governance and Intellectual Capital on Financial Performance : A study of Commercial Banks in India**” is submitted by Mr. Sathish Kotte, Research Scholar enrolled for Ph.D. program at the School of Management Studies, University of Hyderabad, is the bonafide work done under my supervision and guidance as prescribed under Ph.D ordinances of the University.

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Research articles related to the topic of this have been:

A. Published in the following journals

1. Sathish Kotte and Dr.Irala Lokanandha Reddy. “The influence of corporate governance factors on intellectual capital performance: Panel data evidence from the Indian banking sector”. *Banks and Bank Systems*, (ISSN Number:1991-7074), Vol,18, Issue.(2), Pages,101-112, May,2023.
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Research Supervisor

Dean

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(17MBPH09)

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ABRIVATIONS

ACM: Audit Committee Meetings

ACS: Audit Committee Size

BGD: Board gender diversity

BSZ: Board Size

CAR: Capital Adequacy Ratio

CE: Capital Employed

CEE: Capital Employed Efficiency

CEO: Chief Executive Officer

CG: Corporate Governance

CGI: Corporate Governance Index

CIMA: Chartered Institute of Management Accountants

CMIE: Centre for Monitoring Indian Economy

CP: Corporate Performance

DEA: Data Envelopment Analysis

EGX: Egyptian Exchange

FBM: Frequency of Board Meetings

FMCM: Fraud Monitoring Committee Meetings

FMCS: Fraud Monitoring Committee Size

FP: Financial Performance

FTSE: Financial Times Stock Exchange

GCC: Gulf Cooperation Council

GMM: System Generalized Method of Moments

HC: Human Capital

HCE: Human Capital Efficiency

IBs: Islamic banks

IC: Intellectual Capital

ICE: Intellectual Capital Efficiency

ICS: Intellectual Capital Statement

IND: Independent Directors

IPO: Initial Public Offering

ISE: Istanbul Stock Exchange

KSE: Karachi Stock Exchange

LEV: leverage

MENA: Middle East and North Africa

MFI: Microfinance Institutions

NIC: National Intellectual Capital

NSE: National Stock Exchange

OIC: Organisational Intellectual Capital

OLS: Ordinary Least Squares

RBV: Resource-based View

RMCM: Risk Management Committee Meetings

RMCS: Risk Management Committee Size

ROA: Return on Assets

ROE: Return on Equity

S.E: Standard error

SC: Structural Capital

SCBs: Scheduled Commercial Banks

SCE: Structural Capital Efficiency

SEBI : Securities and Exchange Board of India

SLR: Systematic Literature Review

SPSS: Statistical Program for Social Scientists

SSBs: Shari'ah Supervisory Boards

UTI: Unit Trust of India

VA: Values Added

VAIC: Value Added Intellectual Coefficient

VIF: Variance Inflation Factor

ABSTRACT

This study aimed to investigate the Impact of Corporate Governance and Intellectual Capital on Financial Performance: A study of Commercial Banks in India. The corporate governance factors consisted of the number of board of directors, the number of independent directors, the number of woman's on the board, the number of audit committee directors, the number of risk management committee directors, the number of fraud management committee directors, the frequency of board meetings, the frequency of audit committee meetings, the frequency of risk management committee meetings, the frequency of fraud management committee meetings and the number of banks with separate chairman and CEO. Intellectual capital efficiency has been estimated using Value Added Intellectual Capital (VAIC) methodology. The financial performance has using estimated using Return on Equity (ROE). The population of the study is Commercial scheduled banks listed at the national stock exchange (NSE) India in 2010 – 2020. The sampling method was done by using purposive sampling. The data for the study is mainly collected from secondary sources. The data has been extracted from CMIE (*Centre for Monitoring Indian Economy*) database. Financial statements from the annual reports of the banks (RBI Data Warehouse, IBS annual reports and banks websites). The data collected is arranged to form a panel, and then analyzed using multiple regression.

The result of this study revealed that the CEO Duality, independent directors, board size, and fraud management committee meetings had a

positive significant impact on financial performance. Moreover, Intellectual capital had a significant impact on financial performance of the banks. Structural capital efficiency (SCE) and employed capital efficiency (ECE) had significant impact on financial performance. CEO Duality, independent directors, board size, frequency board meetings, audit committee meetings, and fraud management committee meetings had significant impact on intellectual capital performance.

The findings of this study are important to regulators, investors, academics, and others who have contention that the corporate governance factors and banks performance are important for increasing intellectual capital performance. In the stock exchange, with the numbers of recent regulations focusing on corporate governance, there is a widely held view that better corporate governance is associated with better banks financial performance.

Keywords: corporate governance, intellectual capital performance, financial performance, banks performance, board of directors characteristics.

1. CHAPTER - 1

INTRODUCTION TO THE STUDY

1.1. Background of the study

History demonstrates that business, similar to all other things, develops with time. From ancient times to the present day, business expansion, transformation, and strategies have occurred. The barter system has been replaced by monetary transactions, sole proprietorships have evolved into large corporations, and business markets have transitioned from national to international. Till the eighteenth century, business activities were primarily focused on agriculture and handmade goods. However, significant changes occurred with the advent of the Industrial Revolution in the 1800s. The nineteenth century was a period of entrepreneurship; the industrial revolution drove fast expansion in output and earnings, making production efficiency the primary emphasis of the era. The 20th century was viewed as the period of the executives, persistently expanding contest in nearby and worldwide business sectors expected associations to really deal with their physical and monetary assets to acquire strategic advantage. With the development of the corporate administration period in the 21st century, physical and monetary assets never again stay the wellspring of the economic upper hand; rather, information and scholarly capital turn into the new real factors of the business world (Mullerat, Ramon & Brennan, Daniel, 2005).

1.2. Corporate Governance

Corporate governance is a crucial factor in maximizing efficiency, promoting productivity and profitability of the firm (Makki & Lodhi, 2014), as well as creating value for shareholders (Safieddine et al., 2009).

The goal of CG is to utilize corporate resources in the most effective way possible to benefit both the company's stakeholders and the broader community.

The way a company is managed, administered, and regulated is determined by a set of laws, procedures, customs, and policies known as corporate governance.

A company should maintain a relationship of trust with its shareholders and society, acting in an equitable, open, and responsible manner. To make sure that its decisions are in all stakeholders' best interests, it should implement systems of governance that regulate and oversee management practices. The primary concerns for corporate governance are being open and honest, treating all parties equally, giving everyone their due share, and being responsible to the people who are invested in the company. Corporate Governance is seen as a way to create the most efficient business environment and is essential for a company to remain successful, sustainable, and productive in the face of ever-changing global business trends.

Good corporate governance requires ethical decision-making at the top management level. Ethical governance offers a solution to corporate issues, such as agency problems, by reducing information asymmetry through improved transparency, fairness, and equity towards people associated with the business. Transparency in accounting procedures helps corporations be more attractive investment targets and enables them to raise external capital. Good

CG practices lead to increased operational performance of a firm, enhanced by improved strategic thinking at the top-level management. Bringing in independent directors to the highest level of management provides a variety of experiences and fresh ideas and ensures that financial records are handled with the utmost accuracy.

Governance has various forms of assessment. The elements of governance involve both internal and external processes. Companies have their own methods and measures used to ensure control and accountability, which may differ depending on the organization, sector, and nation. Additionally, governmental oversight, industry codes, and global rules are in place to regulate and monitor operations. To ensure proper corporate governance, it is necessary to set up a competent and fair-minded board of directors, assign appropriate duties, form independent monitoring teams that include finance/accounting/legal/risk management/internal audit, and devise and enforce a code of conduct. Good corporate governance practices are essential for sustainable businesses that aim to generate long-term value for stakeholders by pursuing better business practices. Research studies have shown that most investors are prepared to pay a price premium for the shares of a well-governed company.

1.2.1. Corporate Governance in India: - Overview

Corporate governance recognizes that shareholders of a corporation are the true owners and that they possess certain inalienable rights as such. Additionally, it acknowledges the responsibility of shareholders to act as trustees. It deals with values, ethical business behavior, and distinguishing private and corporate resources from leadership in an enterprise (Narayana Murthy, 2003).

It has always been held that Indian businesses should be directed so that they benefit all its stakeholders. The Companies Act 1956 laid down the groundwork for the oversight of all businesses. The Act contained specific measures to ensure oversight and accountability of the authority of the Board (SEBI 2013). In addition to the requirements of the Companies Act, all publicly traded corporations must comply with the provisions outlined in Section 21 of the Securities Contract Regulations Act of 1956. The strong disapproval of shareholders towards the corporate governance failures of stock market fraud, UTI fraud, Ketan Parekh fraud, and Satyam fraud has highlighted the need for more transparency in corporate governance in India. This is because CG has a large impact on the efficiency of the organisations and, thus, the rate of economic growth (McRitchie, 2015). The economic reforms of 1991 have led to a rise in the global integration of Indian companies, thus requiring them to adhere to greater transparency, responsibility, and good governance practices to meet the standards of international corporate governance.

In the year 2000, the area regulating bodies of the capital market approved the proposals of the Birla committee by adding a new clause to it. However, before the Companies Act of 2013 was put into effect, Clause 49 of the listing

agreement was used to govern the regulation of corporate governance. SEBI has approved alterations to the listing agreement in order to increase the transparency of transactions carried out by listed companies and to give minority investors more authority in influencing management decisions. McRitchie (2015) reported that these changes took effect on October 1, 2014.

To set a limit for the number of directors chosen to provide the correct disclosure of finances and paperwork, corporations are now required to operate with at least one female on the board of directors. In order to establish a redundant policy, the audit committee has upheld the CSR component, or corporate social responsibility, by hiring an independent director (McRitchie, 2015).

In the year 2017, the SEBI released a directive requiring all companies to evaluate the performance of their board of directors; this presents a considerable challenge.

Despite the ever-evolving laws, regulations, and instructions, there are still some problems that need to be solved before India's corporate governance system is truly reliable. Incorporating the principles of corporate governance, enhancing transparency within the board, preserving the autonomy of directors, compensating those who are qualified to serve on the board, planning for future leadership changes, and establishing a reliable risk management strategy are all issues that need to be addressed. The failure of the CG policy to be widely adopted in India is largely due to it being modelled after Western countries without taking into account the unique characteristics of the Indian Business Environment. This lack of consideration has prevented the desired outcomes

from being achieved (Kalpana Unadkat et al., 2017). It was noticed that the regulations were adhered to on paper but not in practice. Therefore, in India, CG must find a way to guarantee that small investors who give capital to businesses (especially those who are not powerful or prominent) get fair treatment as stakeholders (SEBI, 2017).

1.3. Intellectual Capital

As we transitioned into the knowledge economy, the business world shifted rapidly, and so did the priorities of corporations. The fierce level of competition in the business sphere has put pressure on companies to enhance their manufacturing procedures, reduce costs, and meet consumer demands with a limited amount of resources. John Kenneth Galbraith first coined the term IC in 1969 (Bontis, 1998). He suggested that it was not only about the intelligence of people but also the actions needed to make use of that capital. This implies that merely possessing intellectual capital is not enough; organizations must use it effectively for it to have a positive impact. Since the dawn of the knowledge-based economy, IC has become increasingly relevant in both practice and literature. Peter Drucker coined the term 'knowledge-based economy' in his work: *The Post Capitalist Society*. He argued that businesses must focus on intangible resources, such as intellectual capital and knowledge, to generate creative and innovative ideas, reduce production and delivery times, and reduce costs by eliminating unnecessary activities (Boekestein, Bram, 2009). The concept of Intellectual Capital has gained popularity in both business literature and practice over the past decade, as it has been widely recognized as an important factor for organizational success (Pedrini, Matteo, 2007).

A company's highly valuable information is referred to as its Intellectual principal and is considered a crucial intentional benefit. Intellectual capital's worth and its assessment have recently gained widespread acceptance, particularly in regard to the importance of intangible assets to a company's overall valuation. If we accept the premise that a company's market value is equal to the sum of its book value, then the value of a company's intellectual capital indicates that knowing the value of a company's IC would assist in pricing a company's market value even if the company did not participate in a capital stock exchange. The biggest challenge, however, is defining IC. Intellectual capital (IC) is a comprehensive group of intangible assets that enable firms to perform various functions. It includes knowledge, which can be implicit or explicit, knowledge transformation processes through research and development, and knowledge products like patents and trademarks (Annie Brooking, 1996).

Skyrme, David J. (2000) claimed that IC was not merely a portion of human brainpower but extended beyond that to the assets that may be discovered and optimally used in companies. This is despite the fact that a range of definitions have made use of the idea of knowledge. The concept of intellectual capital, as defined by CIMA (2001), encompasses a wide range of valuable assets possessed by organisations. These assets include knowledge and experience, professional expertise, strong relationships, and technology capabilities. When effectively utilised, intellectual capital may provide organisations with a distinct competitive edge. According to (Karl Erik Sveiby, 1997), the concept of IC can be classified as human, structural, and organisational capital.

The various forms of IC disclosure are quite informative for investors. Having the most practical knowledge for investors in reducing the unpredictability concepts is expensive information for the investors as the investors help to reduce vagueness about future prospects and assist in a more accurate estimation of the industry (Bukh, 2003). The onus of developing and using intellectual capital rests with executive directors in order to attain a competitive edge and achieve the objectives of the organisation.

1.4. Corporate Governance and Intellectual Capital

A firm's IC efficiency increases as a result of effective CG practices (Mouritsen, 1998). In the past, there has been little examination of the connection between IC and CG. The focus has shifted from financial performance to governance and its impact.

Corporate governance and intellectual capital are related, and corporate governance is a major factor in attracting intellectual capital to an organization. A lack of good corporate governance practices can lead to an inability to attract and retain intellectual capital, which in turn might affect a firm's performance. The careful allocation of IC is a key responsibility of CG. Firms may need to develop new structures and processes in annual reports to communicate the value created through their intellectual capital. Previous studies have limited empirical evidence, with no focus on intellectual capital generation and small sample sizes. There is a scarcity of research that has been undertaken to examine the correlation between corporate governance measures, the development of intellectual capital, and the performance of a firms.

1.5. Need for the Study

This study would be helpful for both banks to enforce measures to improve their efficiency and academics.

The relevance of this research is highlighted by the terms and conditions that, in India, the capital market consist of a large number of minor investors; thus, the defense of their interests is of paramount significance for regulators when creating CG principles.

Corporate Governance and Intellectual Capital Performance individual studies are there, but CG and IC Performance relationships in banking sector studies are not there in our Indian context. It is useful to researchers and academics.

The majority of companies are owned by the public sector, which also distinguishes it. Given the substantial variations in corporate governance practises and intellectual capital performance among enterprises across different nations, the outcomes of the research would inevitably exhibit significant disparities contingent upon the internal and external contextual factors..

1.6. Research Gap

In the 21st century, emerging countries, including India, are transitioning from labor-based to knowledge-based businesses, making intellectual capital crucial for company growth. Examining factors of CG that improve intellectual capital performance is attracting attention to enhance growth and development.

Very few studies (Selvam et al., 2019); (Mohapatra et al., 2019); (Vidyarthi, 2019); (Singh et al., 2018); and (Barathi Kamath, 2007) were carried out to

explore the influence of ICP on Banking Sector, particularly in the Indian context.

Most of the Studies focused on Corporate Governance and firm performance (Ghosh, 2006);(Pandya, 2011); (Kumar & Zattoni, 2018); (Kaur, 2017); (Ranjan & Raithatha, 2019); (Singh et al., 2018); (Brahmaiah & Ranajee, 2018); and (Agnihotri & Gupta, 2019). However, very few studies have carried out research on corporate governance's impact on banking firms.

Previous studies primarily concentrated on the individual bank performance of CG and ICP. However, there is a dearth of literature exploring the impact of CG on ICP, specifically in the context of scheduled commercial banks. This proposed dimension lacks sufficient coverage in the existing body of literature.

These are few studies (Al-Musalli & Ismail, 2012);(Saeed et al., 2015);(Arifin, 2016);(Malhotra & Thenmozhi, 2016);(Hatane et al., 2017); and (Bharathi Kamath, 2019), Focused on this area in the Asian context; however, there are few studies, especially in the Indian context, that assess the Impact of Corporate Governance on Intellectual Capital Performance of Scheduled banks in India.

In the Indian context, (Bharathi Kamath, 2019) research studies are more focused on the manufacturing sector and large firms, CEO Duality, board size, board meetings, audit committee size, audit committee meetings, but not risk management and it is Chief Executive Officer (CEO) Gender impact on Board functioning Style.

Previous studies concentrated more on the Large Manufacturing Sector. Still, there is a dearth of studies in the service sector in general and the Indian

(Financial) Banking Sector in particular, despite of the fact that the Banking Sector plays a crucial role in India's Economic Development.

1.7. Research Questions

Based on the review of the literature on CG and IC and their effects on financial performance, the following questions have emerged for the study.

- 1) What is the impact of Corporate Governance on financial performance?
- 2) What is the impact of Intellectual capital on financial performance?
- 3) What is the relationship between corporate governance and Intellectual capital?

1.8. Objective of the Study

- 1) To study the impact of Corporate Governance on FP
- 2) To study the impact of Intellectual Capital on FP
- 3) To Study the relationship between CG and ICP

1.9. Research Hypotheses

1) H1: Corporate Governance factors have a significant impact on the financial performance of the Scheduled Commercial Banks (SCBs) in India.

- H1a: CEO Duality has a significant impact on FP.
- H1b: Board size has a significant impact on FP.
- H1c: The Frequency of Board Meetings has a significant impact on FP.
- H1d: Board independence has a significant impact on FP.
- H1e: Board gender diversity has a significant impact on FP.
- H1f: The size of the Audit Committee has a significant impact on FP.

- H1g: Audit committee meetings have a significant impact on FP.
- H1h: The size of the risk management committee has a significant impact on FP.
- H1i: Risk management committee meetings have a significant impact on FP.
- H1j: Fraud management committee size (FMCS) has a significant impact on FP.
- H1k: Fraud Management Committee Meetings (FMCs) have a significant impact on FP.

2) H2: IC Performance has a significant impact on the financial performance of the Scheduled Commercial Banks (SCBs) in India.

3) H (2.1): IC factors have a significant impact on the financial performance of the Scheduled Commercial Banks (SCBs) in India.

- HCE (Human capital efficiency) has a significant impact on FP.
- SCE (Structural capital efficiency) has a significant impact on FP.
- CEE (Capital-employed efficiency) has a significant impact on FP.

4) H3: CG factors have a significant impact on the IC performance of Scheduled Commercial Banks (SCBs).

- H3a: CEO Duality has a significant impact on intellectual capital.
- H3b: Board size has a significant impact on Intellectual capital.
- H3c: Frequency Board meetings have a significant impact on Intellectual capital.

- H3d: Board independence has a significant impact on Intellectual capital.
- H3e: Board gender diversity has a significant impact on intellectual capital.
- H3f: The size of the Audit Committee has a significant impact on Intellectual capital.
- H3g: Audit committee meetings have a significant impact on Intellectual capital.
- H3h: The size of the risk management committee has a significant impact on Intellectual capital.
- H3i: Risk management meetings have a significant impact on Intellectual capital.
- H3j: Fraud management committee size (FMCS) has a significant impact on Intellectual capital.
- H3k: Fraud management committee meetings (FMCM) have a significant impact on Intellectual capital.

1.10. Contribution

The study's conclusions are essential for regulators, investors, researchers, and others who believe that corporate governance and bank performance are vital for enhancing intellectual capital performance. With the new legislation concentrating on corporate governance, there is a commonly held opinion on the stock market that stronger corporate governance correlates with better bank financial performance.

2. CHAPTER – 2

REVIEW OF THE LITERATURE

2.1. Introduction

This chapter offers a comprehensive evaluation of previous studies and relevant literature concerning the impact of CG and IC on the FP of banks listed on the National Stock Exchange of India. Furthermore, it investigates the studies concerning the correlation between corporate governance and intellectual capital, as well as financial performance.

2.2. Theoretical Background

The primary theoretical framework utilised in this study is based on the integration of agency theory and resource dependency theory. The following conversations explore the ideas of corporate governance (CG) and interlocking directorates (IC) through the lenses of agency theory and resource dependency theories.

2.2.1. Agency theory

Agency theory is a concept in financial economics that deals with conflicts of interest between agents, such as a management of a business establishment and its shareholders. This theory desires to illustrate how such conflicts can be minimized, and a mutually beneficial outcome can be achieved. Agency theory suggests that incentives and monitoring can be used to improve the outcomes of shareholder-agent relationships and to reduce the costs of such conflicts. As stated (Fama & Jensen, 1983), Corporations face the problem of information

asymmetry because of the separation between management (called agents) and ownership (called principals), which results in principals having corporate failures due to a deficiency of administrative details. Due to information asymmetry, employers lose vital information (Healy & Palepu, 2001)(Healy & Palepu, 2001). Agency costs are expenditures that have been incurred by business organizations when managers employ an opportunistic demeanor and conclude decisions to benefit themselves (M. C. Jensen & Meckling, 1976). Therefore, employers invest in control mechanisms and reduce manager compensation to prevent opportunistic behavior and maximize resource utilization.

2.2.2. Resource Dependency Theory

Resource Dependency Theory is a management theory that states that an organization's ability to acquire, control, and use resources to achieve its goals is the key to its success. It was developed in the 1970s by Richard P. Rumelt and is based on the idea that organizations are dependent on external resources, in order to function and achieve their goals. This theory suggests that organizations must create and maintain relationships with external sources in order to access and use the resources necessary for their success. The theory also suggests that organizations must structure their internal processes and policies to confirm that they are capable of achieving and using these resources in an effective and efficient manner.

According to (Pfeffer & Salancik, 2003), Resource dependency theory argues that a company's survival relies on the availability of resources controlled by external influences. Yet, because these corporations have no choice but to rely

on external influences for aid, this presents a risk to the companies. This danger can be avoided by establishing linkages between the board and outside influences. According to this perspective, the structure of the governance and board arrangement are significant resources that have obtained value for the business association (Carpenter & Westphal, 2001). Appointing individuals from the outside to positions of responsibility on a corporation's board of directors enables the corporation to get credentials for resources that are essential to its success (Johnson et al., 1996).

In previous research, Resource dependency theory evaluates corporate governance-firm performance relationship. Jackling & Juhl, 2009 examined 180 listed Indian companies' board size and performance using panel data. Firm performance was positively correlated with board size. They also discovered that companies with more independent board of directors performed well. According to the study, board size impacts Indian company performance. Mishra & Kapil, 2018 analyzed the relationship between the size of the board and the performance of 391 business firms that are established in India and found a significant positive association, providing empirical evidence in support of the resource dependency theory.

In light of previous research (Buallay & Hamdan, 2019a); (Zhou et al., 2018); (Nadeem et al., 2019), this study has employed the agency and resource dependence theory to explore the association between CG and ICP of the India commercial banks.

2.3. Corporate Governance and financial performance

Researchers and practitioners in the specialization of CG have engaged in extensive discussions regarding the impact of CG practices on FP. These discussions have been informed by various corporate governance theories.

Cadbury (2000) The Corporate Governance Agenda, as outlined in the 1992 Cadbury Report, was a comprehensive set of principles and recommendations for improving corporate governance among public companies. The report encouraged companies to adopt and adhere to certain standards of conduct that would ensure financial probity and transparency. It recommended improved board structure, with more independent directors; greater disclosure of information; better remuneration practices; increased shareholder rights; enhanced audit procedures; and improved communication between shareholders and management. These measures were intended to reduce potential conflicts of interest between management and shareholders while also strengthening investor confidence in publicly listed companies. The Cadbury Report marked a significant breakthrough in the evolution of corporate governance and has been embraced by numerous nations globally.

Neeraj et al. (2005), this experimentation aimed to explore the influence of the size of the board and license on CG as well as the enactment of Indian firms. The authors conducted research on a representative sample of 112 publicly traded non-financial firms in India between the years 1996 -2001. The findings suggested that the board size and the concentration of ownership played a statistically consequential influence on firm performance. Larger boards, as well as higher levels of ownership concentration, were associated with

improved CG practices and better efficiency. The results of this investigation have indicated that board size and ownership concentration should be accepted into performance when evaluating strategies for enhancing CG and implementation in Indian companies.

Rogers (2008), the study found a strong positive association CG practices and the FP of seven commercial banks in Uganda. Board size, independence, board meetings, and executive compensation significantly linked to the banks' performance. The study concluded that CG is vital for the financial success of these banks.

Khanchel El Mehdi (2007), in this article, an empirical approach is used to analyze data and information from a sampling of Tunisian stock exchange-listed companies from 2000–2005. The results suggest that there is a strong correspondence among various characteristics of CG, such as board size, ownership, and independent directors, and FP. It has been concluded that good CG practices can lead to improved FP for Tunisian firms, which could be beneficial to policymakers in Tunisia who are looking to promote better corporate governance standards.

Hossain & Reaz (2007), this research has studied the elements of voluntary revelation by Indian banking companies. Data has been gathered from the yearly sampling of Indian banking establishments from 2001 to 2003. The results showed that company size, company age, competition level, and the number of branches had notable positive impacts on voluntary disclosure practices. These findings imply that Indian banking companies are progressively adopting voluntary disclosure as a means to improve their corporate image.

Tam & Tan (2007), this study looks into the influence of ownership and CG on firm performance in Malaysia. The authors conducted an analysis of publicly listed companies in Malaysia to explore the connection between ownership structure, CG practices, and organisation performance. They have discovered that the structure of ownership and CG is significantly linked with firm performance and that a higher proportion of public ownership and higher CG scores are associated with higher returns on assets and market value. The authors also found that ownership concentration, size of the board, and the existence of independences are also influentially connected with FP. The findings of this investigation have been delivered as proof that the structures of ownership and CG have a favorable influence on the FP in Malaysia.

Brown et al. (2009), this article reviews the current state of threat control in corporate governance and provides a proposal for the improvement of threat control practices in the CG. The authors first discuss the importance of threat control in organizations, including understanding the various risks that organizations face, such as financial, operational, strategic, and reputational risks. Then the authors review the current threat control practices in CG, including the performance of the board of directors, as well as senior leadership. They also analyze the impacts of the global monetary situation on threat control. Lastly, the authors provide a proposal for improving threat control practices in CG, including the development of an effective threat control framework and the implementation of internal controls. The article concludes with a review of potential challenges to the implementation of the proposed threat control framework. This article provides a comprehensive overview of threat control in

CG and provides valuable insights on how to improve threat control practices in the corporate environment.

This article (**Pandya, 2011**) examines the connection between CG structures and the FP of selected Indian banks. The research uses two measures of FP: profitability and efficiency. The impact of CEO duplecity and the ratio of autonomous managers on the performance of companies have acquired much engagement from investigators in CG. This study hopes to contribute to this research. On the basis of the outcomes from this study, it has been discovered that there is no significant affinity between duplecity and board autonomy for bank efficiency.

Stepanova & Ivantsova (2013), the authors of this article, conduct a global examination of corporate governance in the banking sector, analyzing data from countries all over the world to discern both common trends and disparities in corporate governance practices. They also discuss how these practices can affect bank performance, risk management, and other aspects of banking operations. Finally, they provide recommendations for improving CG in the banking sector. This study provides valuable insights into how different countries approach corporate governance in their banking sectors and highlights potential areas for improvement.

Tomar & Bino (2012), this article presents an observed study of the association with CG and BP in the Jordanian banking industry. Banks with majority institutional ownership and related board members perform better and have lower risk than all other sample groups. Bank performance is most positively affected by board composition. Board size doesn't affect bank performance.

Following the global privatization trend, most Jordanian banks are owned by individuals. Finally, bank riskiness (a control variable) does not affect. However, bank size positively correlates with return on equity. The bank does better with more assets.

Ajanthan A et al. (2013). This study has explored the effect of CG on the Efficiency of private and state banks in Sri Lanka, using the Corporate Governance Index (CGI) and the Capital Adequacy Ratio (CAR) as measures of performance. The results indicate that CG has a positive correlation with banking performance, with banks with higher CG scores showing better performance. The authors conclude that corporate governance is an important factor in determining a bank's success, and state banks should prioritize improving their CG practices to enhance their performance.

This article (**Oyerinde, 2014**) the author investigates the effect of CG variables, including board size and insider loans, on the performance of Nigerian banks. To do so, the author uses data from the Nigerian banking industry from 2000 to 2010. The study results indicate that board size was beneficial, and insider loan has a negative impact on bank performance. The report says insider lending was the most detrimental result of CG in Nigeria's banking sector. The author suggests that policymakers should place greater emphasis on improving CG in the banking sector as it improves performance and helps banks interact with the Nigerian financial system.

Branko Matić & Nikola Papac (2014), study measured the Quality of Corporate Governance in the Banking Sector of Bosnia and Herzegovina. Using a sample of 36 banking organizations from 2009 to 2012, the authors

constructed an index of CG quality and then used it to measure the effects of this quality on the performance of the banks. The results show that corporate governance quality positively affects banking sector performance. The authors conclude that improving corporate governance quality can lead to improved banking performance of the Bosnia and Herzegovina.

Mohammed Al Matari et al. (2014) investigates Oman's audit committee, executive committee, and firm performance. The study uses 50 non-financial Muscat Securities Market companies from 2011 to 2012. The multiple regressions analyze dependent-independent relationships. The research results revealed a non-significant correlation among the audit committee size, independence, executive committee size, and firm performance. Audit committee meetings, executive committee independence, executive committee meetings, and company performance have a negative but statistically insignificant relationship. Firm size and leverage positively and negatively affect performance. To improve performance, Omani firms should focus on their audit and executive committees. This study can help Omani policymakers, regulators, and corporate boards improve corporate governance.

Shungu et al. (2014), in this research, a multi-regression model has been employed to assess the association between CG metrics and BP. The analysis focused on five commercial banks in Zimbabwe and examined the period from 2009 to 2012. Research findings have demonstrated a positive correlation between commercial BP and board composition and diversity. On the other hand, a negative correlation has been observed between bank performance and board size, as well as the presence of board committees. Thus, excellent CG,

including board structures, transparency, and director fiduciary duties, is needed to enhance commercial bank performance. The Reserve Bank of Zimbabwe should implement strong supervisory and regulatory procedures.

Tušek, (2015), this article examines the influence of audit committees on the internal audit operations in the system of CG in Croatia. The author uses a qualitative research approach to investigate the perceptions of senior management with respect to the function of the audit committee and their influence on internal audit operations. According to the study, internal audit committees play an important role in monitoring and regulating internal audit operations in Croatian organisations. The author also reports that the effectiveness of the audit committee is largely dependent on the individual members' dedication to the audit committee and their knowledge of corporate governance and internal audit. The article has been completed with a conversation on the importance of the determinations for the approach of CG and inner audit in Croatia.

Naushad & Malik (2015) examined how corporate governance affected 24 GCC banks' 2012-13 performance. Accounting and FP are measured by Tobin's Q and ROTA. According to the analysis, smaller boards can better monitor management. The study also suggests that the CEO dual may enhance GCC bank performance. GCC banks' block holders may also boost the banking sector's performance.

Kandukuri et al. (2015), this article examines CG in banks from a multinational perspective. The authors provide a brief overview of the current state of CG in banks, discuss the implications of the financial crisis, and propose

measures for improving CG in banks. The authors also analyze the function of the structure of ownership, board composition, and risk management in CG. Bank CG and its effects on the financial system complete the essay. The authors examine bank CG procedures and the financial crisis. Transparency, board monitoring, and risk management are also suggested for bank CG. The article provides significant assistance to the literature on CG in banks and could be useful to researchers, practitioners, and policymakers.

Orazalin et al. (2016), this study examines CG, financial crises, and BP in Russia. To assess the impact of the 2008 financial crisis on top Russian banks, the authors examine their performance from 2009 to 2014. The authors evaluate bank performance using metrics like ROA and ROE. They also examine board composition, executive compensation, and disclosure to determine how these practices affect bank performance. The authors conclude that corporate governance practices improve bank performance and help banks weather the financial crisis. The authors also suggest more research on how corporate governance practices can help banks weather financial crises.

The literature on the connection between BGD, and corporate performance has been evaluated in the article **(Wagana & Nzulwa, 2016)**. The authors observe that the value of gender diversity on boards for successful CG and performance is becoming more widely acknowledged. They have looked at the tangible evidence already in existence and extrapolated that there is a positive correlation between business performance and board gender diversity. The authors also go over several ways that gender diversity affects business performance, notably variations in risk tolerance and strategic judgement.

Nawaz (2017) this study aimed to tangibly investigate how changes in organizational resources and corporate governance attributes affected Islamic banks' (IBs') market-based interpretation. Two hundred sixty-eight annual reports were consulted for the information needed to quantify various aspects of banks' investment strategies and governance frameworks. The impact of investments in structural and human capital, as well as CG traits, on how the market interprets IBs, was studied using a variety of regression techniques.

The study discovers that the market value of IBs have positively impacted by investments in knowledge resources, particularly human capital. The findings show that the long-term human capital accumulation technique adopted by IBs can be seen as a distinctive form of problem-solving knowledge capital. The size of the advisory board has a strong beneficial impact on role duality and a negative impact on market value, according to market assessments, the report concludes. For Islamic bankers and controls, these results can provide useful information for implementing learning oversight in their firms. Similarly, the crucial position of human capital gives managers knowledge of the levers that affect corporate performance.

Almutairi & Quttainah (2017), this study desired to analyze the effect of Shari'ah Supervisory Boards (SSBs) on the implementation of Islamic banks (IBs). Employing 1,803 IBs-year statements from 82 banks in 15 nations over the years 1993-2014 and managing for characteristics comprehended to simulate BP, the outcomes demonstrate a vigorous and influential cheerful affinity between SSBS and IBsP. SSBs improve Islamic bank performance, according to the study. Compared to small SSBs, large corporate boards and

SSBs perform better in monitoring and advisory roles. Therefore, expanding corporate boards and SSBs could enhance managerial behavior, monitoring and advisory services and company efficiency.

The authors also discuss corporate governance challenges and opportunities in the Islamic banking sector, providing valuable insights into Islamic banks' CG practices and specific issues. This research illuminates SSBs' positive impact on Islamic banks' performance and helps us understand CG in the Islamic banking industry.

Armitage et al. (2017), this paper examines the challenges of corporate governance in emerging economies. It begins by discussing the definition of CG and its importance in emerging markets. The authors then analyze the challenges of CG in emerging economies, such as the lack of transparency, weak enforcement of laws, and the prevalence of cronyism. The paper also looks at the role of institutional investors, corporate social responsibility, and shareholder activism in addressing these challenges. Finally, the authors suggest further research on CG in emerging economies.

Ssekiziyivu et al. (2018), this paper's aim was to point out the corporate governance practices of Microfinance institutions and to provide recommendations for enhancing CG in Microfinance institutions (MFI). This survey-based study used a cross-sectional design. Usable surveys were obtained from 179 respondents. Members of Active MFI were the unit of analysis for this research. We analyzed the data using a statistical programme for social scientists (SPSS). MFI have boards, but they could be more effective. According to the findings, there are no completely formed board committees,

shareholders' rights are not always honored and accountability failures are prevalent. The results reveal further options for enhancing CG, such as employing a board with financial knowledge. Results are important for policy formation, such as regulating microfinance organizations and implementing a corporate governance code.

Felício et al. (2018), this article examines the relationship between corporate governance and bank risk during a financial crisis. It examines 97 European listed banks from 2006 to 2010, focusing on the global financial crisis. Governance structures can reduce or increase shareholder-manager agency conflict. Higher debt, board size, insider power, meetings, and remuneration mix increased bank risk, while CEO duality and director age decreased it. Systematic risk has the best corporate governance characteristics. In a financial crisis, corporate governance may reduce bank risk-taking. The authors recommend that financial crisis rules include corporate governance.

Singh et al. (2018), in an emerging economy, only a few studies have examined the association between CG and organizational performance, measured by Tobin's Q (TQ). This study includes all Karachi Stock Exchange-listed companies from 2009 to 2015. We use a system generalized moments method to control endogeneity. Board independence and CEO duality negatively affect TQ ratios, whereas factors such as the size of the board, board committees, and ownership concentration have a beneficial impact. The presence of high ownership concentration has a negative moderating effect on the relationship between board independence, CEO duality, and organisational performance. The link between the OP-board committee is positively moderated by

ownership concentration. The results improve organizational performance measurement.

Shettima & Dzolkarnaini (2018), this study examines how board characteristics affect Nigerian microfinance institutions. Using 120 firm-year observations from 30 Nigerian MFIs from 2010 to 2013, board characteristics and performance are tested. The study used Microfinance Information Exchange data. The authors show that board size improves MFI performance. Female directors negatively affect MFI performance, but not significantly. Larger board sizes indicate good corporate governance, which lowers agency costs. The authors conclude that board characteristics can greatly impact Nigerian microfinance institutions.

Akinleye & Fajuyagbe (2019), this study investigated selected Nigerian multinational firms' corporate governance and performance from 2012 to 2016. Board size, activity, and committee activism on return on assets and firm development were evaluated. Static panel estimation estimates four multinational firms' secondary data. Committee activity did not affect ROA, but board size and activism did. The research found that committee activities increase business development, but board size and board activism did not have a meaningful effect. This research concluded that corporate governance negatively affects the return on an asset but does not affect the growth of Nigerian multinationals.

Christiane Hellstern (2020), this article examines the implications of structural banking reforms for banks' corporate governance. It explores how recent regulatory changes, such as Basel III and the Dodd-Frank Act, have impacted

the way banks operate and their corporate governance structures. The article then looks at how these reforms can impact a bank's ability to effectively achieve its strategic objectives, manage risk, and allocate capital. Finally, it considers the potential challenges posed by new regulations on banks' corporate governance structures and practices. By examining these issues from both a theoretical and practical perspective, this paper provides useful insight into how current banking regulations affect the structure of financial institutions worldwide.

Ranjan & Raithatha (2019), this article has investigated the consequence of CG on firm performance as well as stock return demeanor employing committee data for Indian-listed companies from the year 2006 to 2015. The results have proposed that CG enhances FP. However, CG information has fallen to deliver investors with supplemental risk-adjusted recoveries due to over-announcement statements being well incorporated into present stock costs. The authors conclude that the sparse literature on emerging markets helps determine how investors, fund managers, rating agencies, and governance laws affect investment decisions.

Eissa A et al. (2019), this paper has dissected the correlation among CG instruments and the monetary performance of hotel groups in India. A quantitative study was conducted using 20 hotel companies documented on the Bombay Stock Exchange, and financial data from the year 2013 to 2017 had been considered. The outcome of the experimentation has indicated a strong approving relation between CG instruments and the MP of hotel firms in India. It has revealed that license engagement, board size, and arrangement, audit

committee financial expertise, audit committee size, and independent directors were all completely linked to monetary performance. The outcomes of the experimentation are highly beneficial for policymakers, researchers, and hotel owners in developing countries, as they provide evidence to back up the importance of CG mechanisms in enhancing monetary performance.

Ciftci et al. (2019), it is studied how CG elements such as board autonomy, board size, ownership structure, and executive compensation affected business performance in rising markets, specifically in Turkey. The findings indicated that board autonomy and board size had an optimistic impact on FP, while ownership structure and executive compensation had no effect. The research investigation has finalized that CG has a noteworthy effect on firm performance in Turkey and that further research should be conducted to achieve greater insight into CG in rising markets.

Ayadi et al. (2019) the performance and risk-taking of Eurozone banks before and after the 2008 financial crisis are examined with internal and external governance measures. Due to data availability, the authors selected a few countries in the Eurozone between 2004 and 2009 in order to reduce macroeconomic challenges and disruptions. These countries are France, Belgium, Germany, and Finland. The research results show that institutions select different governance strategies to reduce agency conflicts between management and stakeholders. The data also demonstrate how internal procedures and capital regulations work together to enhance the efficiency of banks. Nevertheless, the authors conclude that internal governance measures

should be implemented in addition to external restrictions because they alone are insufficient to regulate risk-taking.

2.4. Intellectual Capital and Financial Performance

Various scholarly investigations have explored the correlation between IC and FP (Joshi et al., 2013); (Nimtrakoon, 2015);(Al-Musali & Ismail, 2014); (Jordão & Almeida, 2017); (Chowdhury et al., 2018); (Vidyarthi, 2019); (Poh et al., 2018); (Buallay, 2019); (Ousama et al., 2020a); (Selvam et al., 2019).

According to the available reports, the foregoing studies indicate a discernible inclination towards upholding a robust positive correlation between IC and FP in both developing and developed nations. The findings suggest that IC plays a crucial role in the establishment and sustenance of a company's competitive advantage.

Chen et al. (2004), this article analyses Malaysian commercial banks' 2001–2003 intellectual capital performance. Human capital efficiency is greater in all banks than structural and capital efficiency. Foreign banks are more efficient. According to the evaluation conducted by the Value Added Intellectual Coefficient, Hong Leong Bank, Public Bank, and Southern Bank have emerged as the most successful domestic banks. Furthermore, Scotia Bank has been named the most profitable multinational bank. Over the past three years, Public Bank and EON Bank have improved efficiency. Bank rankings by efficiency and conventional accounting vary greatly. After the consolidation process, seven out of ten domestic banks did not show any signs of efficiency improvement. Thus policymakers must develop and execute policies to build a

resilient banking industry. These findings aid stakeholders and investors in bank valuation.

Yalama & Coskun (2007), the profitability and IC of Turkish banks listed on the Istanbul Stock Exchange (ISE) are examined in this article from 1995 to 2004. Data Envelopment Analysis (DEA) and Value Added Intellectual Co efficiency were used to measure the ICP and FP of the listed banks. To evaluate the effect of IC on investors, the authors built three portfolios using three inputs, and they discovered that bigger banks performed best. The authors advise learning about how IC influences other financial service companies.

Barathi Kamath (2007), the study assesses and analyses the Indian banking industry's value-added performance using VAICe. The data came from annual bank reports, primarily profit/loss accounts and balance sheets. The VAICe approach is used to assess five years of Indian bank data after a study of the worldwide intellectual capital literature on measuring methodologies and tools. The research shows that Indian banks perform differently in different sectors and improve over the study period.

El-Bannany, (2008), the factors influencing the intellectual capital performance of UK banks between 1999 and 2005 had been studied for this article. It makes use of multiple regression analysis to identify the key factors influencing IC performance. Results have shown that elements not considered in prior assessments, such as acquisition in IT strategies, bank competence, entrance barriers, and affectivity of acquisition in intellectual assets, impact IC performance. Thanks to this study, banking controllers may now manage the

factors affecting IC performance to generate their performance and take actions to enhance their value compositions.

Young et al. (2009), in four Asian nations-China, India, Japan, and Taiwan; this article had seen a cross-country difference in the ICP of the retail banking sectors. The return on assets and equity, return on invested capital. The efficiency ratio is only one of the indicators the authors use to evaluate the ICP of various banking sectors. China and India, followed by Japan and Taiwan, are shown to have the highest levels of ICP. They blame these nations' vast domestic markets, greater levels of financial sector development, and relatively high quality of their financial institutions for the higher levels of ICP in these nations. In addition, the variations in IC performance between nations may result from

Oppong et al. (2019), this article examines the correlation between intellectual capital (IC) and the productivity of insurance companies in Ghana, using panel data analysis of 33 insurance companies from 2008 to 2016 with an SGMM estimation. The results demonstrate a significant association between IC and productivity, in addition to human capital and investment. The implications of this research are that IC can be a powerful tool to enhance productivity, and its importance in the development of the financial services industry in Ghana is supported.

Ting & Lean (2009), this research examines the ICP and FP of Malaysian financial institutions from 1999 to 2007. This study shows that VAIC positively affects ROA. Research has found that HCE and CEE increase profitability, while SCE impairs it. The authors found that VAIC stands for Business Value

Creation or Intellectual Capability. VAIC data reveals that value-generation capabilities increase business profitability. Therefore, IC and resource utilisation should increase to increase corporate profits, especially for financial institutions.

Joshi et al. (2010), this article examines intellectual capital in Australian banking from 2005 to 2007. ICP has a considerable relationship with human expenses and Australian banks' value addition. The HCE of all Australian-owned banks is much greater compared to the CEE and SCE of these banks. Australian-owned banks' IC performance is unaffected by their overall assets, staff, and shareholder's equity. The authors recommend that Australian-owned banks efficiently manage and leverage their intellectual capital to stay competitive.

Mention & Bontis (2013), Intellectual capital in Luxembourg and Belgium banking is examined in this article. Human capital affects banking company performance directly and indirectly. Structural and relational capital improve company success, but not statistically. Surprisingly, relational capital reduces the performance impact of structural capital. The authors observed that IC is a crucial element in influencing the success of banks in both nations. Also, the authors say that banks should focus on developing and managing their IC in order to improve their performance.

Janošević et al. (2013) the correlation with Serbia's IC and FP had been examined in this essay. The FP, as determined by ROA and ROE, is influenced by human, societal, and structural IC. They contrast large and small businesses IC and FP. ROA and ROE are enhanced by all three IC categories. The findings

show that large enterprises have a greater impact on FP than small firms. The authors come to the conclusion that Serbia's FP can be enhanced by investing in IC.

Seleim & Bontis (2013), this article examines the associations between national IC and the economic efficiency of developing countries. The results revealed that national intellectual capital significantly affects economic performance in developing countries. The authors conclude that policymakers must effort on increasing HC and SC investment to improve economic performance. The article provides valuable insight into the significance of national IC for economic development and suggests potential policy implications for developing countries.

Abhayawansa & Guthrie (2014), this article examines the significance of ICP in Australian analyst reports. They found that analyst reports are more likely to include information about intellectual capital when the firm has higher levels of intangible assets, higher market-to-book ratios, and higher levels of analyst coverage. The findings suggest that organisations with higher levels of IA, higher market-to-book ratios, and higher levels of analyst coverage are more likely to be reported on in analyst reports. The authors conclude that analysts increasingly recognize the importance of IC information when evaluating the company's performance.

Al-Musali & Ismail (2014) evaluated the consequences of IC on the monetary performance of banks in Saudi Arabia. The authors have employed a quantitative research approach to scrutinize the data from a sampling of 30 Saudi banks from 200 to 201. The outcome has revealed that IC extremely and

positively affected economic performance. The investigation has concluded that the administration of IC is important for banks' sustained financial performance in Saudi Arabia. The outcome of this introspection can be utilized to inform the strategies of banks in Saudi Arabia to address their IC effectively to maximize their FP.

Singh et al. (2016), the authors use the Intellectual Capital Statement (ICS) framework to analyse the performance of Indian banks from 2011 to 2015. The ICS framework is based on the RBV of the firm, which is a model of strategic management that focuses on the resources and capabilities of a firm as the main source of competitive advantage. The authors employ a variety of statistical methods to analyse the data, including correlation analysis and regression analysis. They also compare the performance of public and private sector banks in terms of their ICP. The study findings revealed that public sector banks have higher ICP than private sector banks in both resource utilisation and financial performance. The authors conclude that public sector banks are better able to manage and utilise their intellectual capital resources than private sector banks.

Meles et al. (2016), the article examines the correlation between IC capabilities and BP in the US commercial banking industry. The analysis was done on a representative sample of 5,749 US banks between 2005 and 2012. The outcomes demonstrate that human capital (HC) competence, a subcomponent of IC capability, significantly impacts financial success. The authors demonstrate that large banks benefit more from intellectual capital competence. The report suggests that commercial banks increase their IC competence to improve efficiency.

Xu et al. (2017), this article examine intellectual capital's impact on environmental protection company performance. They used a sample of 35 Chinese enterprises from 2010 to 2014. The author finds that while IC's human and structural components significantly impact enterprise performance, innovation capital does not. The authors conclude that performance improvements to the EP industry through IC management.

Pedro et al. (2018) performed a systematic literature review (SLR) of empirical studies from 1960 to 2016. The review analyses NIC (National Intellectual Capital), RIC (Regional Intellectual Capital), and OIC (Organisational Intellectual Capital). The SLR uses a multidimensional taxonomy to measure and categorize different types of intellectual capital for different levels of analysis. NIC, RIC, and OIC studies are also suggested in the article. These recommendations emphasize the need for clear definitions of intellectual capital's components and dimensions. This research improves our understanding of intellectual capital by analyzing empirical studies and emphasizing the need for clarity and consistency in defining its components and dimensions.

Vidyarthi (2019) investigated the impact of IC and its sub-components on the efficiency indices of Indian banks. The study examined data from 38 different scheduled commercial banks from 2004-2005 to 2015-2016. According to the findings, IC has a significant impact on the bank's performance scores, but the effect was found to be minor. The author stated that total IC and performance have a positive association, emphasizing the significance of managers focusing on all areas of IC, including HCE, bank size, and leverage. These variables were

discovered as substantial contributions to make efficiency metrics, despite their modest value.

Poh et al. (2018), the study examined the relationship between IC and FP during two time periods: the most recent six years, from 2011 to 2016, and the most recent ten years, from 2007 to 2016. The results of the regression analysis showed that capital used efficiency and Return on Acquisitions is significantly correlated over time scales of six and ten years, respectively. Additionally, over the previous six years, HCE and SCE significantly impact return on equity, whereas, over the previous ten years, SCE had a strong relationship with return on equity. Furthermore, compared to the previous ten years, SCE showed a substantial association with leverage (LEV) for the most recent six years, and HCE exhibited favorable connectivity using LEV. According to these findings, banks should prioritize three IC components in order to improve their FP.

This study by **Ousama et al. (2020)** investigates the relationship between IC and FP in Islamic banking. Human capital (HC) was found to be superior to capital (CE) and structural capital (SC). SC had minimal impact on FP compared to CE and HC. The study highlights the value of IC in the Islamic banking sector and its potential to enhance FP. However, the purpose of IC in the banking business remains a topic of debate.

This study (**Buallay, 2019**) examined the connection between IC and the performance of Islamic and conventional banking in GCC nations. The study included 295 observations spanning 59 banks and five years. This study offers insightful information on the role of IC in banking performance, especially in the GCC nations. The empirical findings show that IC capacity, FP, and market

performance in Islamic banks have a positive relationship. In contrast, this correlation also includes operational performance (ROE) in conventional banks.

Buallay & Hamdan (2019) this study observes the effect of IC on commercial banks' efficiency in the Middle East and North Africa post-Global Financial Crisis. The findings indicate a strong correlation between Islamic banks' IC efficiency and their ROE and market performance. Additionally, a positive association is observed between IC and operating achievement as well as ROE for traditional banks. The study emphasizes the importance of IP ability in the banking sector and the need for banks to enhance their IC capability to achieve high performance.

Belal et al. (2019), using a case study of a particular bank in the Middle-East, this article investigates Islamic banks' IC reporting processes. They conducted a long-term (2001-2015) investigation on an Islamic bank's IC reporting procedures. The results show an upward trend in IC reporting, the predominance of in-house capital-related components in the IC reporting profile, and the dynamics of changes in IC reporting practices over time. A robust ethical culture, a special knowledge base (Shariah), and a CG regime are just a few examples of the intra-organizational elements the author discusses through an institutional theory lens as the causes of these changes in the external organisational environment.

Selvam et al. (2019), Study examines intellectual capital's impact on Indian commercial banking sector performance. The study reveals that there has been improvement in the sample banks' overall performance during the course of the investigation. This report highlights the skewed growth of various banking

industry segments in India. This study aims to comprehend the effects of the Indian banking sector on company efficiency from the standpoint regarding intellectual assets. They also discover that the performance of IC has a big impact on how effective the Indian banking sector is. The findings of this study indicate that banks should make IC expenditures in order to increase their productivity and competitiveness.

Budiarso, (2019), this study looks into how intellectual capital affects and how well public sector organisations perform. Thirty-six registered companies in the Indonesian Stock Exchange made up the sample and three years' worth of data from 2010-2012 were gathered. A model with multiple regression and an independent sample t-test is used for data analysis in this empirical study. According to the findings, physical capital's IC (VAIC TM) elements greatly affect how well business functions. Contrarily, neither human nor structural capital significantly affects how well a business operates. The piece also covers the function of IC in promoting transparency and responsibility in the public sector, with an emphasis on the requirement for better information management and reporting systems.

Mohapatra et al. (2019) intellectual capital affects Indian banking business performance, according to this study. Using the output-based DEA-BCC model, the research examines 40 Indian banks' operational efficiency as a performance proxy over five years (2011–15). Regression findings demonstrate that only human capital competence is favorably and substantially connected to operational efficiency, whereas structural and financial capital negatively affects banks' efficiency. For competitiveness, banks should invest in human

capital, according to the report. The findings are reliable when applied to economic factors used as performance proxies.

Mukherjee & Sen (2019), this research also explores the influence of IC on CSG with firm size and industry type as moderators. The top 139 NSE-listed non-financial firms for this research were sampled across five years. Intellectual Capital (IC) affects company sustainability, according to this research. The study reveals that four explanatory variables significantly impact sustainable business development. According to the research, innovation capital (controlling Physical Capital) is IC's most important component in sustainable business development. The author concludes that in India, physical Capital and IC (total) and its components are vital to sustainable corporate development.

2.5. Relationship between the Corporate Governance and Intellectual Capital Performance

Swartz & Firer (2005), this article investigates the impact of board composition on the ICP of South African enterprises. To find out if there was a connection between board structure and ICP, the authors utilized a survey to gather information from a sample of South African businesses. According to the study's findings, businesses with more independent board structures performed better in terms of IC than those with more executive-dominated boards. The authors also found that the level of independence of the board was associated with higher levels of intellectual capital performance but not with other financial performance measures. The article provides important insights into corporate

governance in South Africa and how board structure can influence intellectual capital performance.

Cerbioni & Parbonetti (2007), the findings show that governance-related factors significantly impact how much information is disclosed. According to the findings, the proportion of independent directors is positively correlated with the disclosure of internal structure, CEO duality has a negative relationship with the publication of forward-looking information, and board makeup improves annual report summaries. The authors add to agency theory by proposing that volunteer reveal and CG methods can be deliberately employed to lessen agency conflicts.

In their study **Jing et al. (2008)**, investigate the relationship involving IC disclosure and the CG framework in UK enterprises. They find that the presence of an independent chairman, the size of the board, and the size of the audit committee are important determinants of intellectual capital disclosure. The authors also discuss the implications of their findings for corporate governance and suggest that better disclosure of intellectual capital can improve corporate governance and create value for shareholders.

Safieddine et al. (2009), the authors examine the structure of the institution's CG system and its effect on its IC using a qualitative research methodology. The results indicate that CG and IC are related and that faculty members view CG as a significant factor in attracting IC. Respondents also believe that existing IC enhances a company's ability to attract additional IC. Nonetheless, as evidenced by faculty responses, contradictory perceptions of AUB's governance structure undermine support for a strong relationship involving CG and IC in

the university. The results also reveal areas for improvement in the deployment of resources. This study's findings indicate that CG and IC can be combined to create a more productive and successful organisation.

Abdullah & Sofian (2012), this paper has interrogated the connectivity between intellectual capital and corporate performance. The authors have operated a sample of publicly-listed Malaysian businesses to investigate the data. They have discovered that IC simply and particularly concerns CG. The results have also suggested that IC is consequential in deciding CG. The researchers have figured out that firms should finance IC to enhance performance.

Al-Musali & Ismail (2014), in this article, examine the correlation among IC and board characteristics of Gulf Cooperation Council banks. According to the study, GCC-listed banks' IC performance is poor. These banks' IC performance is negatively correlated with the number of independent directors. The study found no other variables related to IC performance. These results highlight GCC-listed banks' IC performance challenges and the unexpected impact of independent directors. GCC banking practitioners and policymakers can benefit from the findings. The authors conclude that the Board characteristics of GCC banks are important determinants of intellectual capital performance, so there is a need to pay special attention to board characteristics.

Alizadeh et al. (2014), this study examined corporate governance and intellectual capital in the Tehran Stock Exchange-listed pharmaceutical companies from 2004 to 2009. The study examines three independent corporate governance variables: board size, executive director non-executive scope, and

auditing committee presence. However, corporate governance does not affect pharmaceutical firms' intellectual investments. Board size negatively affects intellectual capital, while the other two variables have no effect. These findings may affect companies and policymakers. They indicate that CG variables have little effect on pharmaceutical IC. Board composition matters because board size hurts intellectual capital. These findings can help companies make decisions and policymakers to create good corporate governance.

Mahmudi & Nurhayati (2015), this study looks at the performance of listed banks on the Indonesia Stock Exchange (BEI) from 2008 to 2012 in terms of intellectual capital by looking at the impact of board governance components. A descriptive quantitative research methodology is employed. Secondary data from 2008-2012 financial statements of the listed banks in BEI formed the basis for the data source. According to the study's findings, the IC performance of listed banks in BEI is positively impacted by board size, independence, gender diversity, age diversity, and FBM. The findings of this study show that the performance of IC is significantly influenced by the qualities of the board of directors.

Makki & Lodhi (2014), in this study, the effectiveness of IC, CG, and FP were all compared. The study discovered that greater levels of CG result in enhanced IC efficiency and, subsequently, better FP by using financial data from the fiscal years of 2006-2012 from a sample of 23 companies registered on the Karachi Stock Exchange in Pakistan. Additionally, the study results found that CG is positively correlated with FP even when intellectual capital efficiency is not taken into account.

Appuhami & Bhuyan (2015), this study analysed the association between CG and ICP in Australia's top service firms. The Intellectual Capital Efficiency (ICE) model is used to evaluate these firms. Corporate governance significantly impacts intellectual capital efficiency, according to the study. Board size, independence, and meetings are particularly associated with intellectual capital efficiency. The authors suggest prioritising corporate governance to improve intellectual capital efficiency. Corporate governance is crucial to intellectual capital management efficiency, as this article shows. The study stresses the essence of good CG for firms seeking to maximize intellectual capital efficiency.

Saeed et al. (2015), this study set out to determine how intellectual capital (IC) affects how corporate governance (CG) and corporate performance (CP) are interconnected. The study's findings showed that IC did, in fact, mediate the connection between CG and CP. In particular, it was discovered that CG positively influenced IC, and IC positively influenced CP in turn. The study's findings imply that IC is crucial to comprehend the relationship between CG and CP and that IC should receive more considerations when analyzing this relationship.

Nkundabanyanga (2016) this study has analysed the affinity between board governance, intellectual capital, and business performance. The study has utilized data from an empirical study of 3,006 documented organisations in the Shanghai and Shenzhen Stock Exchanges in China. The results have shown that control of the board and IC are strongly connected with FP. Furthermore, the results have also exhibited that board control and IC have a strong consequence

on FP, proposing that the connection between board administration, IC, & FP is more complicated than formerly regarded. This study's results have proved that board administration and IC are both significant motorists of firm performance. The results have also recommended that firms should consider investing in both board control as well as IC to maximize performance.

Basyith, (2016), this article analyses the connection between the governance of corporations, intellectual assets, and company performance. The sample firms were selected in order to provide a representative sample of Indonesia's industrial landscape. Both intellectual capital and business performance were found to have a favorable link with GCG, as shown by these data. The implications of these findings for corporate governance are examined, and it is advised that additional research can be conducted to investigate the role that intellectual capital plays in determining how closely corporate governance is tied to firm performance.

Berezinets et al. (2016), this article explores a board of administrators' intellectual capital and its constituent parts. The term IC and its three basic components are briefly explained, Organisational capital, human capital, and social capital. The writers go into how these elements can be used to evaluate the board of directors' performance and how they can add value to a company. The writers also discuss the idea of board diversity and how it could improve a board of directors' IC. They discuss how technology, knowledge sharing, and innovation may benefit the board of directors. They describe the IC advantages for a board of directors.

Arifin (2016), this study investigates the relationship between corporate governance, intellectual capital, and financial performance in Indonesia's banking industry. The study uses data from the Indonesia Stock Exchange from 2008 to 2012. The study's findings demonstrated that CG significantly and favorably affected FP. The results also indicated that IC contributed positively to FP, although only marginally. The findings show that CG significantly impacts the FP of companies operating in the banking industry. Additionally, the findings imply that IC may benefit FP, although further study is required to validate.

Faisal et al. (2016), the authors of this study, examined how effectively five commercial banks' corporate governance policies affected their intellectual capital from the years 2006 to 2013 as documented on the Karachi Stock Exchange (KSE). The findings demonstrated that board size, autonomous directors, CEO duplicity and audit committee had significant effects on the commercial banks' IC efficiency. On the other side, the effectiveness of IC was significantly hampered by the presence of non-executive directors. According to the report, CG needs to be strengthened in order to boost the effectiveness of IC in Pakistan's commercial banking sector. It also emphasized the need for additional research on CG and IC efficiency.

Hatane et al. (2017) study CG impact on IC and business value in Indonesia and Malaysia. The authors use a sample of 188 consumer goods firms from both nations to investigate the relationship between CG, IC, and corporate worth. They discover that IC positively correlates with board size, board autonomy, and the number of independent directors, whereas the number of executive

directors is negatively correlated. Additionally, they note that IC is closely related to the value of corporate organisations in both countries. The authors come to the conclusion that CG can be used as a strategy to enhance business performance because it has a major impact on both IC and firm value.

The importance of CG and intellectual capital, as revealed by Chief Executive Officers (CEOs) is the topic of this paper by **Yan (2017)**. Yan investigates the relationship between CG and IC revelation in the statements of CEOs by conducting a context analysis of the annual reports of 26 documented organisations in China. The study's findings showed that companies with higher CG rankings revealed more IC in their financial accounts. Yan also finds that the CEOs' claims about IC were influenced by the ownership structure of the companies. The study also emphasizes the significance of associations between corporations' disclosures of their IC and other CG characteristics. The findings show that CG should be taken into account when making decisions about the disclosure of IC and have implications for enhancing the CG practices of enterprises in China.

Musleh & Abdalmuttaleb (2018), the article examines Gulf Cooperation Council countries' relationship between CG and IC. The author makes use of a panel data set that spans the years 2006 and 2016 and contains information from ten GCC nations. According to the findings, CG and IC are positively correlated in GCC nations. Strong CG systems are more likely to ensure that IC is appropriately managed and developed - the author hypothesizes, explaining why this conclusion may be the case. The study also offers some empirical

guidelines for policymakers in the GCC region, such as bolstering CG frameworks to guarantee that IC is efficiently managed and developed.

Buallay & Hamdan (2019), this study explores CG and IC and firm size's moderating role. CG is company's management and operational systems. IC is a firm's employees' knowledge and abilities. The authors examined CG, IC, and company size in UAE-listed enterprises. The study found that CG positively affects IC. The authors also discovered that firm size moderates this link nonlinearly, with larger firms benefiting more from effective CG than smaller firms. This study suggests that corporate governance promotes IC and that firm size should be considered when creating corporate governance laws.

Bala et al. (2019), this study investigates the role that IC plays in mediating the relationship between CG & FP in Nigeria. According to the study's findings, CG and the performance of conglomerates in Nigeria are significantly positively correlated. The outcomes of the study also revealed that IC acts as a complete mediator of the relationship between CG and financial performance. According to the experiment's findings, managing IC is a crucial component to consider when enhancing conglomerates' performance in Nigeria. In order to boost their productivity, the report suggests corporations increase their IC investments. The study also suggests that Nigerian conglomerates create efficient CG systems to ensure adequate management of IC.

Bharathi Kamath (2019), the authors examine the influence of CG characteristics on the intellectual capital performance of firms in India. The study results reveal that CG factors have a significant effect on ICP. In addition, the results show that the ownership structure of the firm has a negative impact

on ICP. The consequences of the study's conclusions extend to several stakeholders, including regulators, investors, and business boards. This study provides a better understanding of the role of CG characteristics in influencing ICP.

This article by **(Bharathi Kamath, 2019)** examines the role that board characteristics have in intellectual capital performance in service and manufacturing firms in India. The results indicate that the board characteristics of service and manufacturing organisations differ significantly in terms of board composition, board diversity, and board complexity. Furthermore, Study finds board characteristics positively impact ICP in service and manufacturing firms. This study found that well-structured boards of directors improve ICP in Indian service and manufacturing enterprises. This study illuminates how board qualities improve intellectual capital performance in India.

Nadeem et al. (2019), the study examines board gender diversity and intellectual capital disclosure in Chinese IPOs, analyzing 909 IPOs from 2012 to 2015. The study's findings show a favorable correlation between board gender diversity and the voluntary disclosure of IC in IPO prospectuses. The findings imply that board gender diversity favours the disclosure of IC information by issuing corporations and that the impact is stronger in companies with higher ownership concentration. The investigation's findings have implications for regulators, investors, and CG academics.

Braune et al. (2020), this study looks at how intangible assets, governance, and financial performance are related in the context of French businesses. The authors examine how CG practices. Executive compensation and intangible

capital affect the performance of businesses over a five-year period using a panel of more than 4,000 publicly traded companies. The authors discover that governance structure, notably spending on R&D and intangible capital, directly affects firm performance. The authors also discover that executive compensation directly affects business performance, but that impact is lessened when governance and intangible capital are taken into account. This essay proves that CG and intangible capital are crucial factors in determining business performance and should be considered when assessing a company's performance.

Shahwan & Habib (2020), the effectiveness of CG & IC and the financial distress of enterprises in Egypt are compared in this study. The authors examined 391 non-financial companies listed on the EGX from 2010 to 2018 as part of their sample. The study reveals CG efficiency negatively impacts financial distress, while IC efficiency has a positive impact. The results suggest that CG efficiency can reduce financial distress, while IC efficiency can increase financial distress. The authors recommend that firms should focus on increasing CG efficiency and reducing IC efficiency in order to reduce their financial distress. Furthermore, the authors suggest that regulators should take into account the efficiency of both CG and IC when designing corporate governance regulations.

3. CHAPTER – 3

RESEARCH METHODOLOGY

3.1. Introduction

This chapter describes the research methods in the following order. The chapter begins by discussing the research design elements, such as population, sampling procedures, data collection, and data sources. Measurement variables, including dependent, independent, and control variables, are also discussed. “The chapter then concludes with a discussion of the data analysis, which includes descriptive statistics, normality tests, autocorrelation tests, multicollinearity tests, heteroscedasticity tests, and the research model”.

3.2. Conceptual Model

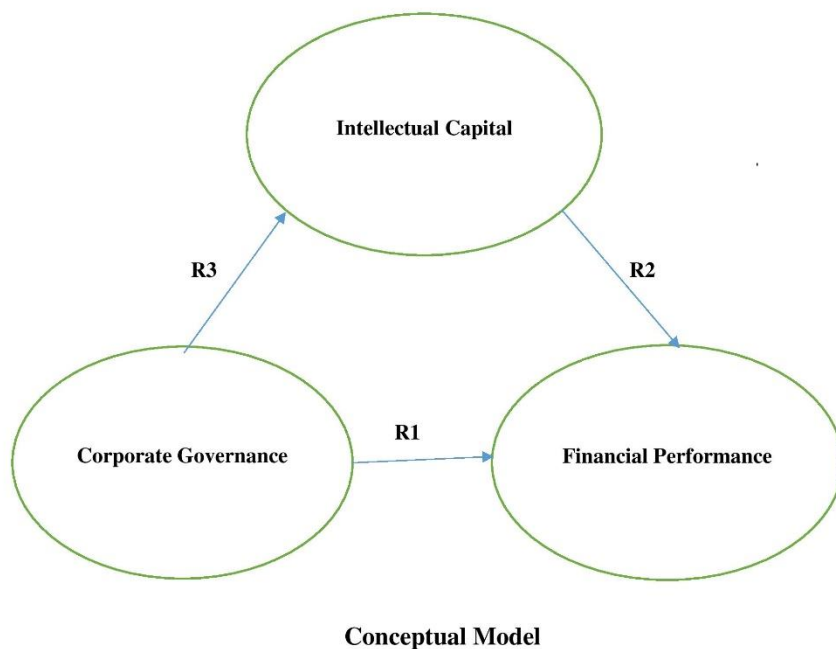


Figure 3.1: Conceptual Model

3.3. Research Design

This study will try to measure the influence of CG and IC on FP through descriptive research. The study will be conducted to explain the causal relationship within the variables through hypothesis testing (Cooper & Schindler, 2003). Data will be gathered/ extracted from the financial statements and annual reports that have been published, that pertain to the variables under study.

3.4. Population and Sample

The sample for the study were commercial scheduled banks listed on the Indian national stock exchange by 2009 and were active from 2010 to 2020 with complete and contiguous annual reports and financial statements for the years from 2010 to 2020.

For the study, the researcher chose commercial banks that were registered at the National Stock Exchange (NSE) in 2010 – 2020 as the population (33 Banks).

Out of these, the banks that meet the following criteria have been included in the sample:

- 1) The bank's stocks were in active transactions during the above period.
- 2) The annual reports have the complete information needed in this study.

Based on the above criteria, using purposive sampling technique, 26 banks were included in the study. The list of banks in the sample can be seen in Table 1.

The number of data records thus is $26 \times 11 \text{ years} = 286$.

Table 3. 1: List of the Banks

List of the Banks	
1) State Bank of India	14) City Union Bank
2) Bank Of Baroda	15) DCB Bank
3) Bank of India	16) Dhanlaxmi Bank
4) Bank of Maharashtra	17) Federal Bank
5) Canara Bank	18) HDFC Bank
6) Central Bank of India	19) ICIC Bank
7) Indian Bank	20) IDBI Bank
8) Indian Overseas Bank	21) IndusInd Bank
9) Punjbab&Sind Bank	22) Jammu and Kashmir Bank
10) Punjab National Bank	23) Karur Vysya Bank
11) Uco Bank	24) Kotak Mahindra Bank
12) Union bank of India	25) South Indian Bank
13) Axis Bank	26) Yes Bank

3.5. Data collection method

The data for the study is mainly collected from secondary data in the form of quantitative data obtained from the annual financial statements of the commercial scheduled banks listed on NSE from 2010 to 2020.

3.6. Data sources

- 1) The data for the study primarily relies on secondary sources for collection.

- 2) The information has been extracted from
- The balance sheets and profit and loss accounts of the banks
 - CMIE (Centre for Monitoring Indian Economy) database
 - Financial statements and the annual reports from 2010 to 2020 have been considered.

3.7. Operational Definitions and Variable Measurement

The objective of this study is to investigate the correlation between Intellectual Capital and financial success with respect to various corporate governance parameters: CEO-Duality, board size, Independence of board, Board Diversity, Frequency of Board meetings, Management committee size, Management committee meetings, Audit committee size, Audit committee meetings, Risk management committee size, and Risk management meetings. In this study, two types of variables will be defined: independent and dependent variables.

3.7.1. Independent Variables

A) Board Size

(M. Jensen & Meckling, 1976) a board size is the amount of directors who are determined in facilitating on to the board of directors. The authors' measure proxies which have been previously employed by (Sarkar et al., 2021); (Sanni & Haji, 2014); (Whiting & Birch, 2016); (Baldini & Liberatore, 2016); (Uzliawati & Djati, 2015); (Ramadan & Majdalany, 2013); and (Rodrigues et al., 2017) in their study:

B) Independent Directors

The purpose of this study is to determine if the number of independent boards of directors influences the disclosure of intellectual capital. In order to measure this, proxies from prior studies (Sarkar et al., 202; Whiting & Birch, 2016; Baldini & Liberatore, 2016); and Rodrigues et al., 2017) are employed.

C) Board Meetings

The repetitive programming of board meetings, the velocity of the activity of the board as well as its effectiveness on the boards are recorded in a given year. (Vafeas, 1999) suggested that the effectiveness of a board is largely dependent on how often its members gather to understand and evaluate the matters relevant to company management. To measure this, proxies such as the intensity of the activities on board, understanding the level of frequency of the board meetings as well as measuring the effectiveness of the various studies has been investigated on the lines of (Sarkar et al., 2021); (Sanni & Haji, 2014); and (Rodrigues et al., 2017).

D) Board Diversity

The number of female directors working on the board (Duru et al., 2016) and (Gul et al., 2011) is used to measure board gender diversity.

E) CEO Duality

CEO duality refers to the situation in which an individual simultaneously holds the positions of Chief Executive Officer (CEO) and Chairman of the Board of Directors inside an organisation. If only one person performs these two roles, the dummy variable is set to 1; otherwise, it is set to 0.

F) Audit Committee

The Companies generally constitute a qualified independent Audit Committee, which acts as a link between the management, external and internal auditors and the board of directors of the company. The Committee is responsible for effective supervision of the company's financial reporting process by providing direction to the audit function and monitoring the scope and quality of internal and statutory audits, and ensuring accurate and timely disclosures, with the highest levels of transparency, integrity and quality of financial reporting.

1)

Audit Committee Size

The Audit Committee size is determined by the number of board members who are serving on the audit management committee.

2) **Audit Committee Meetings**

The ideologies and effectiveness of the committee meeting of an audit are evaluated based on the total number of meetings that will take place during the financial year.

G) Risk Management Committee

The scope of this Committee is to provide assistance to the board of directors in the timely identification, assessment and mitigation of risks (i.e., financial, operational, strategic, regulatory, statutory, reputational, political, catastrophic and others) faced by the company. The Committee has overall responsibility for monitoring and approving the enterprise risk management framework and is capable of effectively addressing and monitoring these risks. The Committee also approves and oversees a Company-wide risk management framework capable of effectively addressing these risks.

1) Risk Management Committee Size

The number of board members, who also serve on the risk management committee, is used to estimate the size of the committee.

2) Risk Management Committee Meetings

The frequency of meetings held by the risk management committee is a key performance-indicator.

H) Fraud Management Committee

The Fraud Management Committee is devoted to informing members about industry education, legislative and regulatory matters, and consumer fraud matters within banks. Moreover, it is dedicated to providing a platform for members to share best practices, stay updated about new trends, network, and advocate for changes in federal legislation and regulations.

1) Fraud Management Committee Size

The fraud management committee size is measured by using the number of fraud management committee members on the board.

2) Fraud Management Committee Meetings

Fraud management committee meetings are measured by using the total number of meetings that occurred during the financial year.

3.7.2. Dependent Variable

I) Financial Performance

The financial performance is measured by using the Return on Equity

ROE = Net Income/shareholder equity

J) Intellectual capital performance

The VAIC model was first developed by Pulic in 1998. ICP is measured using the Value Added Intellectual Coefficient (VAIC) as had been done in the prior studies of (Celenza & Rossi, 2014; Singh et al. 2016; Inkinen, 2015 Z; Nimtrakoon, 2015; Sarea & Alansari, 2016; and Bharathi Kamath, 2019) followed in the study to reach VAIC.

The First step:

VA is calculating the capability of the organisation to develop the value added of the resources in an organisation to create an added value. According to (Meek & Gray, 1988; Donaldson & Preston, 1995; Riahi-Belkaoui, 2003 and Pulic, 1998), the value-added measurement is as follows:

$$(1) VA = Output - Input$$

Output is total sales and other revenue from products and services sold in the market, and Input is the expense and other expenses needed to operate the company except the cost of employees (salaries, wages, incentives and workers and employees training costs).

The second step:

Human Capital Efficiency (HCE = VA / HC): estimating the relationship between Values added (VA) and Human Capital (HC). Human Capital Efficiency (HCE) views the quantitative factor in viewing the VA that can eventually be generated with the funds that are invested in labour. This particular ratio views the degree of contribution that are initiated by those single dollar invested in HC to Value Added in organizations. Employee costs (salaries and wages, including all incentives and training plans) are considered as an indicator for HC, and those costs are not considered as inputs. It means that employee-related expenses are not costs but an investment (Pulic, 1998); (Pulic, 2004); (Zhang et al., 2006); and (Zéghal & Maaloul, 2010). Thus the relationship between Values added (VA) and HC measures the capability of HC that are subjected to create value and calculate the efficiency of the HCE through:

(2) $HCE = VA/HC$

The Third step –:

Structural Capital Efficiency (SCE = SC / VA): This is to find the relationship between Values added (VA) and Structural capital (SC). Structural Capital Efficiency (SCE) helps in measuring the total number of structural capital that is needed by producing the 1 dollar from VA as an indicator

regarding SC's success in the creation of value. To calculate (SCE), it is necessary first to find the value of SC for the business. According to (Pulic, 1998); (Pulic, 2004); (Zhang et al., 2006); and (Zéghal & Maaloul, 2010), structural capital is calculated as follows: $SC = VA - HC$. This equation indicates that SC is not an independent indicator, and it depends on the extent of Human capital's contribution to creating value. Thus, if the contribution of HC increases in creating value, the contribution of SC will decrease. Calculating the SCE will be done through the following equation:

$$(3) \text{ SCE} = SC/VA$$

The Fourth step:

Capital Employed Efficiency (CEE=VA/CE): This is to find out the relationship between value added (VA) and capital employed (CE) (Firer & Williams, 2003) and (Pulic, 2004) to ensure that Intellectual capital can't create value alone. Thus it is important to consider Capital Assets in Calculations (CE = total assets – intangible assets) to have full coverage for the value added of all resources in the company. The efficiency of capital employed (CE) is calculated through Capital Employed Efficiency (CEE), thereby showing the level of contribution that is produced by each particular unit of the capital organization. CEE indicates the ability of capital employed to create VA in the company.

$$(5) \text{ CEE} = VA / CA$$

The final step: is to find out the contribution of all company resources in creating value. Value Added Intellectual Coefficient (VAIC) measures the contribution made by each unit of all resources to the value-added in organizations. The higher the (VAIC), the better the efficiency of value-added

created by all resources in the company (Pulic, 1998); (Pulic, 2004); (Zhang et al., 2006); and (Zéghal & Maaloul, 2010).

(6) VAIC = HCE + SCE + CEE

VAIC is criticized by (Andriessen, 2004), who said that the basic assumption for this method may be a problem and it could lead to unsatisfactory results. Regardless of the critics, many researchers (Chen et al., 2004; Shiu, 2006; Zhang et al., 2006; Kujansivu & Lönnqvist, 2006; Tan et al., 2007; Yalama & Coskun, 2007; Barathi Kamath, 2007; Chan, 2009;, and(Zéghal & Maaloul, 2010) used VAIC as it is one of the important and attractive methods that enable measuring the predictable contribution of the entire resources facilities in the company which include the capital, Human, Structural factors in order to create a value-added. (Chan, 2009) provide much positive evidence for VAIC as it is the most suitable method to measure intellectual capital. Also (Barathi Kamath, 2007) proved the validity of VAIC convincingly as a suitable method to measure intellectual capital.

K) Justifications for using VAIC

The justification for adopting the VAIC methodology in the current research may be summarized below (Chen et al., 2004; Shiu, 2006; Kujansivu & Lönnqvist, 2006; Tan et al., 2007; Yalama & Coskun, 2007; Chan, 2009;, and Kamath, 2019):

1. Measuring quantitatively and objectively without needing any subjective scoring or scales: This method makes it possible for the upcoming calculation of the statistical evaluation as well as by using a vast amount of sample size,

which would include data sets such as the data items that are accumulated over the growing time period.

2. By providing ideas on the mechanism that acts as indicators are relevant to the use and having greater importance, particularly for the stakeholders, and not only for the stakeholders themselves but also benefits the shareholders. The key components of IC can be identified and compared, allowing them to for accessing the company's performance.

3. It employs the monetary analysis of the measurements related to many of the indicators with relation to the ratios that are calculated, as well as can be compared with traditional financial indicators, which are usually expressed in monetary units or measures.

4. The calculating components are identified by the necessary components and the indexes that are probably very straightforward, making it easy to comprehend, particularly for management and business people accustomed to traditional accounting information.

5. Benchmarking may be possible due to the use of standardized measurements in the form of the various indicators or the elements signifying the value of indexes that can be implicated and differentiated on various levels, such as divisional, company, industry, and national.

6. The utilization of the published financial data sets and public services is subjected to enhancing their liability and validity aspects in order to improve the measuring techniques of the available data.

7. VAIC provides measurement techniques built to bring out consistencies in the system of management of the stakeholder view as well as the resources that are based on viewing the approach to be value added.

8. It gives priority to the human capital services or the employees linked with the services which are known to be the most valuable resources in approaching the major consistency levels that can be ultimately seen in the area of literature.

9. VAIC is a widely used methodology in IC research, used by researchers in various countries, including Hong Kong, Taiwan, Malaysia, and Singapore. It measures the impact of IC on economic, financial, and market performance, making it rare in Palestine.

3.7.3. Control Variables

L) Bank size

The size of the bank (BSIZE) is computed by the natural logarithm of the total assets, which creates a sense of possibility in raising the efficiency level.

M) Bank Age

The method of calculating bank age involves the bank date of establishment to the present year.

N) Leverage

The Financial Leverage Formula is calculated by dividing Total Debt by Shareholder's Equity, and it indicates how much a company relies upon borrowing to generate revenue.

Leverage = Total Debt / Shareholder's Equity

Table 3.2: Summary Definitions of Variables

S.no	Variables	Measure of Variables
1	Value-added intellectual coefficient (VAIC)	$VAIC = HCE + SCE + CEE$
2	Human capital efficiency (HCE)	$HCE = VA/HC$ Human capital efficiency coefficient for the firm (HCE); VA, value added by the firm; HC, total salary and wage costs for the firm.
3	Capital expended efficiency (CEE)	$CEE = VA/CE$ Capital expended efficiency coefficient for firm(CEE); VA, value added for the firm; CE, book value of the net assets for firm
4	Structural capital efficiency (SCE)	$SCE = SC/VA$ or $SC = VA - HC$ Structural capital efficiency for the firm (SCE); VA, Value added for the firm ; HC, total salary and wage costs for the firm
5	Value added (VA)	$VA = I + DP + D + T + M + R$ VA, value added by firm computed as sum of; I interest expense; DP, depreciation expenses; D, dividends; T, corporate taxes; M, equity of minority shareholders in net income of subsidiaries; R, retained earnings by the firm
6	CEO duality	CEO Duality exist when the position of CEO and Board Chairman are held by the same person. 0 or 1, Where 0 shows Board Chairman I,s also the CEO of the Company, and 1 show that Board Chairman and CEO of the company
7	Board size	Number of members on the board of the firm for each of the year
8	Independence of board	Proportion of independent directors on board to total board members
9	Board Diversity	Number of female directors on the Board
10	Frequency of Board meetings	Number of Board meetings held during the Financial year of study.
11	Audit committee size	Number of board directors on the audit committee as at the financial year end
12	Audit committee meetings	Number of audit committee meetings held during the financial year of study.
13	Risk management committee size	Number of board directors on the Risk management committee as at the financial year end
14	Risk management meetings	Number of Risk management committee meetings held during the financial year of study.
15	Fraud Management Committee size	Number of board directors on the Fraud Management Committee as at the financial year end
16	Fraud Management Committee meetings	Number of Fraud Management Committee meetings held during the financial year of study.
17	ROE	Return on Shareholder Equity

3.8. Data Analysis Method

3.8.1. Descriptive Statistics

Data collected and processed using descriptive statistical techniques, such as frequency distribution, standard deviation, average, minimum value, and maximum value, can be presented in the form of descriptive statistics, which provide a clearer and more comprehensible understanding of the variables studied.

Testing for Assumptions

Regression is a parametric approach, which means it assumes certain characteristics of the data in order to be able to analyze it. However, this restrictive nature of regression can lead to unreliable results if the data does not adhere to these assumptions. It is, therefore, essential to ensure that these assumptions are validated before conducting a successful regression analysis.

3.8.2. Normality Test

The normality test is employed to ascertain whether the residual values of a regression model conform to a normal distribution. This is a necessary assumption for the validity of parametric statistical tests. If this assumption is not met, then the results of the tests may be invalid. The normality test involves assessing the distribution of the residuals to determine if it is normal.

1. The regression model satisfies normality assumption when data follows a diagonal line or a normal distribution in a histogram graph.
2. Data spread far from diagonal line or histogram lacks normal distribution invalidates regression model's normality assumption.

Normality tests assess sample data from a normally distributed population, a prerequisite for statistical tests like parametric testing. Two main methods are graphically and numerically assessed, ensuring normality in parametric testing.

3.8.3. Jarque–Bera Test

The Jarque-Bera test, proposed by Jarque and Bera (1980), is a statistical test used to assess the goodness of fit of sample data with respect to the skewness and kurtosis parameters of a normal distribution. The test statistic is never unfavourable. It indicates that the data does not have a normal distribution if it is zero.

3.8.4. Heteroskedasticity Test

For testing the unequal discrepancy among the residuals of the different kinds of observation in the regression model, a heteroscedasticity test is one of the most important. A good regression model will display no heteroscedasticity; thus, for more than 5% of the value of p , the conclusion is that there are zero heteroscedasticity and the data that is homogeneous. Conversely, the p -value is lower than 5%, indicating the presence of heteroscedasticity (ARCH element).

White test:

OLS regression assumes constant variance for residuals/errors, which can lead to heteroscedasticity when this assumption is violated. The White test, a statistical test, determines if the variance of errors in a regression model is constant.

The proposed test for heteroscedasticity and its corresponding estimator for consistent standard errors were introduced by Halbert White in 1980 (White,

1980). The techniques employed in this study have attained significant prevalence, rendering this manuscript among the most frequently referenced publications in the field of economics (Kim, Morse et al. 2006).

3.8.5. Variance Inflation Factor (VIF)

The variance inflation factor (VIF) is a statistical measure used to identify the presence of multicollinearity in regression analysis. Multicollinearity refers to the phenomenon in which there exists a correlation among the predictors, also known as independent variables, within a model. The presence of multicollinearity can have a detrimental impact on the findings of a regression analysis. The Variance Inflation Factor (VIF) is a statistical measure that quantifies the extent to which the variance of a regression coefficient is increased due to the multicollinearity present in the model.

3.8.6. The Granger Causality Test

“The Granger causality test is a statistical test used to determine the causal relationship between two time series variables. It examines whether the past values of one variable can provide useful information for predicting another variable beyond what can be predicted using the past values of the second variable alone”.

More formally, let's consider two-time series variables, X and Y. The Granger causality test evaluates the hypothesis that X Granger causes Y, which means that the past values of X have a significant impact on the current and future values of Y.

The test is conducted by estimating two regression models:

$$\text{Model 1: } Y(t) = \alpha + \sum(\beta_1 * Y(t-i)) + \sum(\gamma_1 * X(t-i)) + \varepsilon(t)$$

$$\text{Model 2: } Y(t) = \alpha + \sum(\beta_2 * Y(t-i)) + \varepsilon(t)$$

In Model 1, the lagged values of both Y and X are included as predictors, while in Model 2, only the lagged values of Y are used. The idea is to compare the performance of these two models to determine if the inclusion of X as a predictor improves the prediction of Y.

The statistical significance of the Granger causality test is assessed using various methods, such as the F-test or likelihood ratio test. If the test statistic is significant and the residuals ($\varepsilon(t)$) are smaller in Model 1 compared to Model 2, it suggests that X Granger causes Y.

It is important to note that the Granger causality test does not establish a causal relationship in the true sense of causation but rather indicates predictive causality within the statistical framework. Additionally, the test assumes that the time series variables are stationary and that there is no omitted variable bias or other statistical issues.

The Granger causality test has applications in various fields, including economics, finance, social sciences, and environmental studies, where researchers seek to understand the causal dynamics between variables over time.

3.8.7. Regression Analysis Models

The numerous stages of regression analysis are used to perform the fictitious test in research. Multiple regressions have been examined using the statistical approach to see if there is a relationship between the dependent and independent variables. In this research, the proxy for corporate governance is “board size, independent directors, board meetings, audit committee size and meetings”, which has been highlighted in the study.

The multiple regression models are:

1. The impact of CG factors on the FP of the Scheduled Commercial Banks (SCBs) in India.

$$\begin{aligned}
 FP_{it} = & \beta_0 + \beta_1 CEO_{it} + \beta_2 BSIZE_{it} + \beta_3 BIND_{it} + \beta_4 BGD_{it} + \beta_5 FBM_{it} \\
 & + \beta_6 ACS_{it} + \beta_7 ACM_{it} + \beta_8 RMCS_{it} + \beta_9 RMCM_{it} \\
 & + \beta_{10} FMCS_{it} + \beta_{11} FMCM_{it} + \beta_{12} FSIZE_{it} + \beta_{13} LEV_{it} \\
 & + \beta_{14} FAEG_{it} + \varepsilon_{it}
 \end{aligned}$$

2. The effect of IC on the FP of the Scheduled Commercial Banks (SCBs) in India.

$$FP_{it} = \beta_0 + \beta_1 ICP_{it} + \beta_2 FSIZE_{it} + \beta_3 LEV_{it} + \beta_4 FAEG_{it} + \varepsilon_{it}$$

3. The effect of IC factors on the FP of the Scheduled Commercial Banks (SCBs) in India.

$$\begin{aligned}
 FP_{it} = & \beta_0 + \beta_1 HCE_{it} + \beta_2 CEE_{it} + \beta_3 SCE_{it} + \beta_4 FSIZE_{it} + \beta_5 LEV_{it} \\
 & + \beta_6 FAEG_{it} + \varepsilon_{it}
 \end{aligned}$$

4. The CG factors influencing the ICP of Scheduled Commercial Banks (SCBs) in India

$$\begin{aligned}
 ICP_{it} = & \beta_0 + \beta_1 CEO_{it} + \beta_2 BSIZE_{it} + \beta_3 BIND_{it} + \beta_4 BGD_{it} + \beta_5 FBM_{it} + \beta_6 ACS_{it} \\
 & + \beta_7 ACM_{it} + \beta_8 RMCS_{it} + \beta_9 RMCM_{it} + \beta_{10} FMCS_{it} + \beta_{11} FMCM_{it} \\
 & + \beta_{12} FSIZE_{it} + \beta_{13} LEV_{it} + \beta_{14} FAEG_{it} + \varepsilon_{it}
 \end{aligned}$$

Note: CG; Corporate Governance, ICP; Intellectual Capital Performance, VAIC; Value Added Intellectual Coefficient, CEO Duality, IND; Independent Directors, BGD; Board Gender Diversity, BSZ; Board Size, FBM; Frequency of Board Meetings, ACS; Audit Committee Size, ACM; Audit Committee Meetings, RMCS; Risk Management Committee Size, RMCM; Risk Management Committee Meetings, FMCS; Fraud Monitoring Committee Size, FMCM; Fraud Monitoring Committee Meetings, Bank Size, HCE; Human Capital Efficiency, SCE; Structural Capital Efficiency, CEE; Capital Employed Efficiency, Return on Equity, Bank Age, LEA; Leverage, VA; added value.

4. CHAPTER – 4

DATA ANALYSIS AND HYPOTHESIS TESTING

The researcher of this study examines all the information gathered to understand better the relationship between CG, IC and FP for Indian banks. The researcher makes the following statistical analysis assumptions in this context: linear regression analysis, descriptive statistical analysis, and the favourable and unfavourable effects of GC on IC. The impact of the performance IC on many elements of Indian banks is discussed in this chapter.

4.1. Descriptive Statistics

Table 4 1: Descriptive Statistics

Descriptive Statistics Analysis					
Variable	Obs	Mean	Std. Dev.	Min	Max
ROE	286	0.624	0.959	-1.61	2.02
VAIC	286	10.894	2.835	5.543	20.740
CEODuality	286	0.927	0.261	0	1
IND	286	4.906	2.296	1	12
BGD	286	1.049	0.815	0	3
BSZ	286	12.143	2.581	6	19
FBM	286	12.287	4.265	4	28
ACS	286	6.619	2.122	3	13
ACM	286	9.920	2.664	4	18
RMCS	286	6.601	2.002	3	13
RMCM	286	4.657	1.473	2	11
FPMS	286	6.143	2.102	0	11
FPMI	286	3.566	1.909	0	11
HCE	286	9.916	2.803	4.676	19.712
SCE	286	0.891	0.031	0.786	0.949
CEE	286	0.087	0.012	0.055	0.152
Bank Age	286	74.664	35.136	6	126
Bank Size	286	10.042	4.519	4.789	17.492
LEV	286	22.456	34.267	0.107	201.720

According to Table 4.1, the researcher offers the findings of the descriptive investigation, which also contains the commercial banks of India's ROE presentation. The maximum and minimum values for the ROE performances of Indian commercial banks are 2.02 and -1.61, respectively, while the average value is 0.624. The mini and maximum values for value-added intellectual

capital (VAIC) range from 5.54 to 20.74. 10.89 is the expected value for VAIC. For CEO Duality, however, the standard deviation and mean values are 0.26 and 0.92. Here, the maximum and minimum values range from 1 to 0. The score for Board Independence should range from 1 to 12, with the mean value being 4.9 and the standard deviation being 2.29. The minimum amount value and maximum amount for the Board Gender Diversity are both zero. The standard deviation for embark size was 2.51, and the mean value was 12.14. In this case, the anticipated value should be between 6 and 19. The Frequency Board Meeting's suggested value is 12.28, while the normal deviation is 2.66. This value should be between 4 and 28 meetings, where the numbers show the lowest and maximum values.

The Audit Committee Size had a mean value of 6.62 and an average deviation of 2.12, respectively. This important factor's value ranges from 3 to 13. The mean value for the Audit Committee Meeting was 9.92, with a standard deviation of 2.66, while the expected value should be between 4 and 18. Regarding the RMCM, the mean value was 4.65, and the standard deviation was 1.47. Here, the researcher included details on the minimum and maximum values, which were 2 and 11, respectively. However, the mean value for the Risk Management Committee Size was 6.60. The researcher presents the findings of this investigation for the Fraud Management Committee Size (FMCS), where the average value was 6.14 and the normal deviation was 2.10. This important factor's predicted value should range from 0 to 11. The mean value for the Fraud Management Committee Meeting (FMCM) was 3.56, while

the standard deviation was 1.90. In this case, the anticipated value should range from 0 to 11.

The standard deviation and mean values for human capital efficiency were 2.80 and 9.91, respectively. This aspect's lowest and highest values were 4.64 and 19.71, respectively. The mean and standard deviation for structural capital efficiency (SCE) were 0.89 and 0.03, respectively. This aspect's range of smallest value was 0.78, and its largest value was 0.94. The standard and mean values for capital employed efficiency (CEE) were 0.01 and 0.08, respectively, with lowest and maximum values ranging from 0.05 to 0.15.

The average and standard deviation of Bank Age are 74.66 and 35.15. Its smallest value was 6, and its largest value was 126. The average size of a bank was 10.04, and the standard deviation was 4.51. Its lowest value was .78, and its highest value was 17.49. The mean and standard deviation of LEV were 2.45 and 34.26, respectively. Its lowest value was 0.10, and its highest value was 201.72.

4.2. Correlation Matrix

A positive correlation has been seen between CEO Duality and board independence and the monetary presentation of different profitable banks in India. This positive relation was the result due to the Pearson Correlation between exploratory variables as well as dependent variables. In this correlation analysis, an adverse effect has been seen between Board Gender diversity and Frequency of Board Meetings with financial performances. At 0.05 levels, the statistical analysis was signified.

Table 4 2: Correlation Matrix

	Correlation Matrix																		
	RCE	VAIC	Ceo duality	IND	BSZ	BGD	FBM	ACS	ADM	RMCS	RMCM	FPMS	FPMM	HCE	SCE	CEE	Bank age	Bank size	LEV
RCE	1.000																		
VAIC	0.364	1.000																	
Ceo duality	0.000	0.000	1.000																
IND	0.141	0.186	0.017	1.000															
BSZ	0.399	0.250	0.158	0.007	1.000														
BGD	0.000	0.000	0.007	0.000	0.000	1.000													
FBM	-0.045	-0.142	-0.062	0.061	0.305	0.249	1.000												
ACS	0.450	0.016	0.293	0.305	0.000	0.000	0.000	1.000											
ADM	-0.124	0.030	-0.065	-0.026	0.249	1.000													
RMCS	0.036	0.617	0.270	0.666	0.000	0.000	0.395	1.000											
RMCM	-0.372	-0.108	-0.101	-0.319	0.238	-0.051	0.000	0.000	1.000										
FPMS	0.000	0.069	0.089	0.000	0.000	0.000	0.000	0.000	0.000	1.000									
FPMM	-0.299	-0.153	-0.063	-0.409	0.392	0.035	0.475	1.000											
HCE	0.000	0.010	0.286	0.000	0.000	0.554	0.000	0.000	1.000										
SCE	-0.177	0.055	-0.099	-0.192	0.213	0.133	0.455	0.228	0.000	1.000									
CEE	0.003	0.352	0.094	0.001	0.000	0.025	0.000	0.000	0.000	0.000	1.000								
Bank age	-0.346	-0.193	-0.043	-0.351	0.459	0.036	0.428	0.604	0.291	0.000	0.000	1.000							
Bank size	0.000	0.001	0.472	0.000	0.000	0.548	0.000	0.000	0.000	0.000	0.000	0.000	1.000						
LEV	-0.141	0.021	-0.266	-0.062	0.211	0.315	0.089	0.012	0.151	0.115	1.000								
	0.017	0.720	0.000	0.300	0.000	0.000	0.178	0.841	0.011	0.051	0.000	1.000							
	-0.250	-0.145	0.134	-0.202	0.360	0.006	0.219	0.522	0.171	0.591	-0.046	1.000							
	0.000	0.014	0.023	0.001	0.000	0.918	0.000	0.000	0.004	0.000	0.434	0.000	1.000						
	-0.141	0.074	0.091	-0.146	0.174	0.131	0.078	0.207	0.222	0.229	0.111	0.506	1.000						
	0.017	0.212	0.126	0.013	0.003	0.027	0.187	0.000	0.000	0.000	0.062	0.000	0.000	1.000					
	0.363	1.000	0.185	0.250	-0.142	0.031	-0.107	-0.152	0.056	-0.193	0.021	-0.145	0.075	1.000					
	0.000	0.000	0.002	0.000	0.017	0.602	0.070	0.010	0.349	0.001	0.721	0.014	0.206	0.000	1.000				
	0.399	0.947	0.174	0.174	-0.110	0.006	-0.054	-0.117	0.092	-0.138	0.073	-0.122	0.076	0.945	1.000				
	0.000	0.000	0.003	0.003	0.063	0.924	0.362	0.048	0.121	0.019	0.218	0.039	0.144	0.000	0.000	1.000			
	0.349	0.275	0.144	0.271	-0.261	-0.250	-0.206	-0.263	-0.182	-0.190	-0.109	-0.173	-0.202	0.271	0.281	1.000			
	0.000	0.000	0.015	0.000	0.000	0.000	0.001	0.000	0.002	0.001	0.067	0.003	0.001	0.000	0.000	0.000	1.000		
	0.420	-0.340	-0.080	-0.413	0.192	-0.094	0.617	0.487	0.388	0.456	0.018	0.209	0.014	-0.340	-0.277	-0.298	1.000		
	0.000	0.000	0.178	0.000	0.001	0.113	0.000	0.000	0.000	0.000	0.760	0.000	0.809	0.000	0.000	0.000	0.000	1.000	
	-0.400	-0.292	-0.374	-0.719	0.280	0.098	0.396	0.531	0.371	0.542	0.197	0.339	0.198	-0.291	0.192	-0.454	0.408	1.000	
	0.000	0.000	0.000	0.000	0.000	0.330	0.000	0.000	0.000	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.000	0.000	1.000
	0.131	-0.035	-0.592	0.063	0.156	0.192	-0.063	0.052	0.131	-0.035	0.083	0.098	0.153	-0.035	0.044	-0.103	-0.198	0.217	1.000
	0.027	0.554	0.000	0.288	0.008	0.001	0.289	0.385	0.027	0.557	0.162	0.097	0.010	0.560	0.459	0.082	0.001	0.000	0.000

4.3. The Granger Causality Test

Table 4.3: Regression Analysis for Granger Causality Test

Source	SS	df	MS	Number of obs =		264
				F(6, 257) =		10
Model	48.357	6	8.061	Prob > F =		0
Residual	207.119	257	0.806	R-squared =		0.1893
				Adj R-squared =		0.1704
Total	255.477	263	0.971	Root MSE =		0.89773
ROE	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]	
ROE						
L1.	0.218	0.067	3.26	0.001	0.086	0.349
L2.	0.206	0.066	3.11	0.002	0.076	0.337
CG						
L1.	0.001	0.005	0.14	0.887	-0.009	0.011
L2.	-0.016	0.005	-3.06	0.002	-0.026	-0.006
VAIC						
L1.	0.053	0.022	2.37	0.019	0.009	0.096
L2.	-0.051	0.022	-2.36	0.019	-0.094	-0.008
_cons	1.420	0.559	2.54	0.012	0.319	2.520
Source	SS	df	MS	Number of obs		264

				=		
				F(6, 257) =		4.9
Model	3680.826	6	613.471	Prob > F =		0.0001
Residual	32205.504	257	125.313	R-squared =		0.1026
				Adj R-squared =		0.0816
Total	35886.330	263	136.450	Root MSE =		11.194
CG	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]	
CG						
L1.	0.057	0.064	0.88	0.38	-0.070	0.184
L2.	0.090	0.065	1.39	0.167	-0.038	0.217
ROE						
L1.	-0.597	0.832	-0.72	0.474	-2.235	1.042
L2.	-3.044	0.826	-3.69	0	-4.670	-1.418
VAIC						
L1.	-0.452	0.277	-1.63	0.104	-0.997	0.093
L2.	0.460	0.270	1.71	0.089	-0.071	0.992
_cons	60.258	6.966	8.65	0	46.540	73.976
Source	SS	df	MS	Number of obs =		264
				F(6, 257) =		7.02
Model	298.686	6	49.781	Prob > F	=	0

Residual	1821.302	257	7.087	R-squared =		0.1409
				Adj R-squared =		0.1208
Total	2119.988	263	8.061	Root MSE =		2.6621
VAIC	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]	
VAIC						
L1.	0.263	0.066	4	0	0.133	0.393
L2.	-0.103	0.064	-1.6	0.111	-0.229	0.024
CG						
L1.	0.017	0.015	1.12	0.264	-0.013	0.047
L2.	-0.064	0.015	-4.14	0	-0.094	-0.033
ROE						
L1.	-0.055	0.198	-0.28	0.78	-0.445	0.334
L2.	0.377	0.196	1.92	0.056	-0.010	0.764
_cons	11.478	1.657	6.93	0	8.215	14.740

Table 4.4: Granger Causality test

Granger causality test			
Equation	Excluded	chi2	Prob > chi2
VAIC	CG	9.08	0.0002
VAIC	ROE	0.08	0.7802
CG	ROE	0.51	0.474
CG	VAIC	5.07	0.0006
ROE	CG	4.13	0.0172
ROE	VAIC	5.6	0.0187

As it can be seen in the first row of the table that was just shown, the p-value for the correlation between lagged values of CG and VAIC is lower than 0.05. Lagged values of ROE do not cause CG; on the other hand, generate VAIC since the p-value for this hypothesis is more than 0.05. Because of this, the null hypothesis cannot be dismissed. Because of this, the direction of causation is from the CG to the VAIC.

The p-value for VAIC may be seen in the second row, and it is ($0.0006 < 0.05$). Therefore, at a level of significance of 5%, the null hypothesis that lagged values of VAIC do not cause CG may be rejected as being incorrect. However, as the corresponding p-value (0.474) is more than 0.05, the null hypothesis that lagged values of ROE do not cause CG cannot be rejected. This is because the

probability value is more than 0.05. Because of this, we may deduce that ROE is not the Granger cause of CG and that, instead, CG is caused by VAIC.

The findings shown in the third row demonstrate that ROE is brought about by lagging values of both CG and VAIC. The null hypothesis that lagged values of CG and VAIC do not cause ROE should be rejected at a level of significance of 5% since the p values for both variables are lower than the critical value of 0.05. The chain of causation extends from the CG as well as the VAIC to the ROE.

The existence of Granger causality may thus be explained as follows.

1. CG and VAIC, which stand for the bidirectional Granger causality.
2. The unidirectional Granger causality of the VAIC and CG models.

These findings are consistent with the currently accepted hypothesis, given that CG and VAIC are both factors that contribute to ROE in terms of the financial performance of banks.

Regression Results and Hypothesis Testing

4.4. Corporate Governance Impact on the Financial Performance of Banks

Objective 1: To recognize the impact of CG on FP of the scheduled banks in India

H1: Corporate governance has a significant impact on the financial performance of the scheduled commercial banks in India.

4.4.1. Diagnostic Tests of the Data

Through the help of the valid test, estimation of the coefficient test has been done before using OLS estimation. On the other hand, (Brooks, 2008) argued that assumptions associated with diagnostic tests and standard linear regression should be implemented and meet their criteria before doing OLS estimation.

Table 4 5: Linear Regression of Corporate Governance and Financial Performance

Source	SS	Df	MS	Number of obs	=	286
				F(16, 269)	=	34.210
Model	1318.82	16	82.426	Prob > F	=	0.000
Residual	648.14	269	2.409	R-squared	=	0.671
				Adj R-squared	=	0.651
Total	1966.95	285	6.902	Root MSE	=	1.552
ROE	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
CEO Duality	1.189	0.437	2.72	0.007	0.328	2.049
IND	-0.035	0.021	-1.67	0.095	-0.077	0.006
BGD	-0.410	0.130	-3.15	0.002	-0.667	-0.154
BSZ	-0.035	0.047	-0.76	0.449	-0.127	0.056
FBM	0.000	0.040	0.01	0.996	-0.079	0.080
ACS	-0.704	0.396	-1.78	0.077	-1.484	0.076
ACM	0.167	0.285	0.59	0.557	-0.393	0.728
RMCS	0.086	0.082	1.05	0.293	-0.075	0.247
RMCM	1.886	1.960	0.96	0.337	-1.974	5.745
FMCS	-0.005	0.069	-0.07	0.944	-0.142	0.132
FMCM	-0.153	0.068	-2.25	0.025	-0.286	-0.019
RNPA	-0.269	0.041	-6.61	0.000	-0.349	-0.189
CAR	0.380	0.058	6.55	0.000	0.266	0.494
Bank Age	-0.016	0.004	-3.81	0.000	-0.024	-0.008
Bank Size	0.012	0.040	0.3	0.767	-0.068	0.092
LEV	0.601	0.104	5.76	0.000	0.396	0.806
_cons	-2.461	1.640	-1.5	0.135	-5.691	0.769

A) Jarque-Bera - normality test

The normality test valuations are based on the prediction of evenly distributed mistakes that can be used to calculate Jarque-Bera statistics (Park, 2002).

According to the tabular analysis's two degrees of freedom, the distribution of

the two asymptotic values and the chi-square test as 0.27 denotes a significant increase over 0.05. Additionally, the test of SK considers the 286 total observations and the associated values, which produce a probability of skewness of 0.1992 correspondingly. This demonstrates the data analysis formulation (Skewness p-value>0.05). Similarly, Pr in Kurtosis, valued at 0.2594, shows the data to be distributed normally in the end and presents the value mathematically, yielding (Kurtosis p-value>0.05). The unacceptable premise cannot be rejected because the final value of chi-square 2 is 0.23, which is higher than the threshold of 0.05. This indicates that the material is being distributed according to customary procedures.

Table 4 6: Normality Test of Corporate Governance and Financial Performance

Skewness/Kurtosis tests for Normality					
				 joint	
Variable	obs	Pr(Skewness)	Pr(Kurtosis)	adj chi2(2)	Prob>chi2
resid	286	0.1992	0.2594	2.94	0.2301
Jarque-Bera Normality Test					
Jarque-Bera normality test: 2.618 Chi(2) .2701					
Jarque-Bera test for Ho: normality:					

B) Heteroscedasticity

The hypothesis that the variance of errors must remain unchanged in the presence of heteroscedasticity was put through the model's 'white test,' which was designed to assess whether or not this is a valid assumption (see Table 4.7). It was discovered that the model did not exhibit heteroscedastic behaviour since

the p-value, which was 0.0810, was greater than 0.05. It was also determined that the error variance did not change, considering the p-value was larger than 0.05. As a direct consequence of this, it was not discovered that the idea that there would be no effect was incorrect.

Table 4 7: Heteroscedasticity of Corporate Governance and Financial Performance

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity				
Ho: Constant variance				
Variables: fitted values of VAIC				
chi2(1)	=	3.05		
Prob > chi2		=	0.0810	
Cameron & Trivedi's decomposition of IM-test				
Source	chi2	df	p	
Heteroskedasticity	186.1	151	0.0475	
Skewness	24.95	16	0.0708	
Kurtosis	1.53	1	0.2159	
Total	212.58	168	0.0113	

C) Variance Inflation Factor (VIF)

After conducting the VIF test, it was determined that there is no risk of multicollinearity, as all VIF values ranged from 1.3 to 3.95 (Table 4.8). This is in line with the findings found by (Gujarati & Porter, 2010), who conclude that any VIF value below 10 suggests that there is no potential multicollinearity problem. Furthermore, since the total number of variables used in this study is less than ten, the findings are not affected by multicollinearity.

Table 4 8: Variance Inflation Factor (VIF) of Corporate Governance and Financial Performance.

Variance Inflation Factor (VIF)		
Variable	VIF	1/VIF
Bank Size	3.95	0.253
IND	2.74	0.364
ACS	2.61	0.383
FBM	2.56	0.391
Bank Age	2.54	0.394
RMCS	2.51	0.398
FMCS	2.45	0.409
CAR	2.28	0.439
RNPA	1.9	0.526
ACM	1.75	0.572
BSZ	1.71	0.585
FMCM	1.65	0.607
LEV	1.64	0.611
CEO Duality	1.54	0.648
BGD	1.33	0.751
RMCM	1.3	0.770
Mean VIF	2.15	

D) Auto Correlation

The Durbin-Watson Test (DWT) is a measure of autocorrelation in regression analysis residuals. Autocorrelation is the similarity between successive time intervals of a time series. It can result in underestimation of the standard error and misinterpretation of the significance of predictors. The DWT seeks to identify a particular type of serial correlation, the AR (1) process.

The test based on the DW, reports the statistical analysis with a value located between 0 and 4, based on the following criteria:

- The series of autocorrelation are related to the values of past and future evaluation.
- The test of Durbin-Watson is the amount of mathematical practice for the process of autocorrelation. This results in the analysis of regression for residual purposes.
- The Durbin – Watson test is mostly statistically within the measurement of 0 and 4 significantly. This directs the auto-correlation process of first-order prospects, respectively.

Table 4 9: Auto Correlation of Corporate Governance and Financial Performance.

Durbin - Watson test - Auto correlation						
Source	SS	Df	MS	Number of obs	=	286
				F(16, 279)	=	3.270
Model	1801.44	13	138.572	Prob > F	=	0.000
Residual	11517.28	272	42.340	R-squared	=	0.135
				Adj R-squared	=	0.093
Total	13318.72	285	46.730	Root MSE	=	6.507
ROE	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
CEO Duality	3.741	3.218	1.16	0.246	-2.595	10.076
IND	0.135	0.090	1.51	0.133	-0.041	0.311
BGD	-0.356	0.718	-0.5	0.620	-1.769	1.057
BSZ	0.062	0.235	0.26	0.791	-0.401	0.525
FBM	-0.262	0.194	-1.35	0.179	-0.644	0.120
ACS	-0.124	0.305	-0.41	0.685	-0.725	0.477
ACM	-0.091	0.220	-0.41	0.682	-0.525	0.343
RMCS	-0.558	0.375	-1.49	0.138	-1.296	0.180
RMCM	0.017	0.457	0.04	0.97	-0.882	0.916
FPMS	-0.001	0.345	0	0.998	-0.679	0.677
FPMM	0.691	0.342	2.02	0.044	0.019	1.364
Bank Age	0.018	0.069	0.26	0.797	-0.118	0.154
Bank Size	-0.184	0.354	-0.52	0.604	-0.881	0.513
LEV	0.078	0.053	1.48	0.141	-0.026	0.181
_cons	8.762	6.219	1.41	0.160	-3.482	21.007
Rho	0.7896048					
Durbin-Watson statistic (original) 0.634605						
Durbin-Watson statistic (transformed) 1.933904						

An acceptable range is 1.50 - 2.50 (Turner, 2020). The Durbin-Watson is low (less than 1.50) indicates positive, and Durbin-Watson is high (more than 2.50) indicates negative. The Durbin-Watson statistic value is 1.934, meaning there is no autocorrelation.

4.4.2. Direct Effect- Random Effect Model

The effects of group and individual scores that are simultaneously under the control of the other self-governing factors are measured using the effects of the modular placements. The models of randomized regression results are shown in tabular form, aligned with the result tables. Based on the findings of the corporate governance factors respectively. For the entire R-Square, the leverages explained about 27.04% of the variances in financial performance. According to the R-square values, commercial governance determinants account for 28.35% of the overall variation in finance performance. Additionally, the difference in financial performance rate that was attributed to CG elements highlights the price of R-square to be 28.21%.

From Table 4.10- The impact of CEO Duality on FP was both favorable and significant ($= 11.42$, $P < 0.05$). FP and board independence scores were also recorded ($= 0.221$, $P > 0.05$). FP was negatively impacted by the board's masculinity diversity and was statistically significant ($= -3.743$, $P < 0.01$). The FP is reduced by -3.743 units for every unit increase in BGD. A statistically significant and negative ($= -0.726$, $P < 0.01$) effect of FBM on FP and a positive and notable ($= 1.211$, $P < 0.01$) effect of board size on FP suggest that increasing board size will increase FP (BSZ is 1.211). ACS and ACM positively impact FP, but these effects are not statistically significant ($= 0.529$, $P > 0.05$, and ($=$

0.005, $P > 0.05$). While RMCM has an insignificant effect on FP ($= -0.452$, $P > 0.05$), RMCS has a significant negative impact on FP ($= -1.107$, $P < 0.05$). FMCS significantly and negatively influences FP ($= -1.063$, $P < 0.05$). FMCM exhibited a marginally significant and favorable effect on FP ($= -0.406$, $P > 0.05$). According to the outcome, a unit rise in FMCS causes a unit loss in FP of (-1.063). All the control variables are a statistically significant impact on FP except bank size.

Table 4 10: Random Effect Model of Corporate Governance and Financial Performance.

Random-effects GLS regression						
Random-effects GLS regression					Number of obs =	286
Group variable:	Code				Number of groups =	26
R-sq:					Obs per group:	
within =	0.2835				min=	11
between =	0.2821				avg=	11
overall =	0.2704				max=	11
					Wald chi2(14)	104.72
corr(u_i, X) =	0 (assumed)				Prob > chi2	0
ROE	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
CEO Duality	11.421	3.329	3.43	0.001	4.897	17.945
IND	0.221	0.136	1.62	0.104	-0.046	0.488
BGD	-3.743	0.775	-4.83	0	-5.262	-2.224
BSZ	1.211	0.319	3.8	0	0.586	1.837
FBM	-0.727	0.251	-2.9	0.004	-1.219	-0.235
ACS	0.53	0.445	1.19	0.234	-0.342	1.401
ACM	0.005	0.296	0.02	0.986	-0.574	0.585
RMCS	-1.108	0.526	-2.11	0.035	-2.139	-0.077
RMCM	-0.452	0.624	-0.72	0.468	-1.674	0.77
FMCS	-1.063	0.478	-2.23	0.026	-2	-0.127
FMCM	0.406	0.452	0.9	0.368	-0.479	1.291
Bank Age	-0.02	0.01	-1.94	0.052	-0.04	0
Bank Size	-0.081	0.35	-0.23	0.818	-0.767	0.606
LEV	0.087	0.049	1.77	0.076	-0.009	0.183
_cons	2.689	6.913	0.39	0.697	-10.861	16.239
sigma_u	5.111					
sigma_e	7.734					
Rho	0.304	(fraction of variance due to u_i)				

4.4.3. Direct Effect – Fixed Effect Model

The outcome of regression is subjected to the model of fixed effect, which is reflected in the model by the assumption of group impacts as well as individual impacts that are meant to be less concurrent with the rest of the self-governing variables. The effects comprising of five models are inside the CEO duality, in the size of the board, the board meetings ranging high level of frequency, the size of audit group as well as the management committee related to size and fraud management evaluation committee in meetings and size of bank and age of the bank as well. The fraud committee of management leverages the explained variations of 10.51% of the final performance level for the entire R-square.

The R-square included within the variance of financial performance values 39.37% and is described by the corporate governance. However, the value of R-square is viewed as 23.05% of the entire source of variances in dealing with the bank from taking into account evaluation practices.

When only the variation within each bank is taken into account, the R-Squared within showed that 39.37% of the discrepancy in FP is explained by CG factors, while the R- Squared between showed that 23.05% of the discrepancy in FP is explained by CG factors.

The analysis table demonstrates that while the size of the board (Coef= 0.311, P 0.05) has a favourable yet statistically insignificant impact on FP, CEO Duality (Coef= 10.019, P 0.05) and panel independence (coef= 0.262, P> 0.05) do not. FBM (coef= -0.570, P> 0.05) and BGD (coef=-1.862, P >0.05) also had

a detrimental effect on FP. ACS and ACM, on the other hand, showed a negligible impact on FP (Coef=0.304, $P>0.05$) and (Coef= 0.009, $P > 0.05$), respectively.

Both RMCS and RMCM had a detrimental effect on FP; RMCS had a significant (Coef= -0.996, $P > 0.05$) negative influence on FP, whereas RMCM had a negligible (Coef= -0.334, $P > 0.05$) impact. FMCS collided with FP negatively (Coef= -0.632, $P > 0.05$) but insignificantly. On FP, FMCM demonstrated a favourable (Coef= 1.014, $P 0.05$) significant effect. As a result, an increase of one unit in FMCM results in an increase of (1.014) units in FP.

Table 4 11: Fixed Model of Corporate Governance and Financial Performance.

Fixed-effects robust (within) regression						
Fixed-effects (within) regression					Number of obs =	286
Group variable:	Code				Number of groups =	26
R-sq:					Obs per group:	
within =	0.3937				min=	11
between =	0.2305				avg=	11
overall =	0.1051				max=	11
					F (14, 247)	12.34
corr(u_i, Xb) =	-0.9905				Prob > F	0.000
ROE	Coef.	Std. Err.	t	p > t	95% Conf.	Interval
CEODuality	10.019	3.458	2.900	0.004	3.209	16.830
IND	0.262	0.133	1.970	0.050	0.000	0.524
BGD	-1.863	0.786	-2.370	0.019	-3.411	-0.315
BSZ	0.952	0.330	2.890	0.004	0.302	1.602
FBM	-0.570	0.265	-2.150	0.032	-1.093	-0.048
ACS	0.304	0.432	0.700	0.482	-0.547	1.155
ACM	0.001	0.301	0.000	0.998	-0.592	0.594
RMCS	-0.997	0.518	-1.930	0.055	-2.016	0.023
RMCM	-0.335	0.642	-0.520	0.602	-1.599	0.929
FMCS	-0.633	0.491	-1.290	0.199	-1.600	0.334
FMCM	1.014	0.455	2.230	0.027	0.119	1.910
BankAge	-0.202	0.115	-1.760	0.090	-0.438	0.034
BankSize	-12.594	2.044	-6.160	0.000	-16.620	-8.568
LEV	0.035	0.073	0.480	0.629	-0.108	0.178
_cons	124.920	21.129	5.910	0.000	83.305	116.536
sigma_u	58.411					
sigma_e	7.734					
rho	0.983	(fraction of variance due to u_i)				
F test that all u_i=0: F(25, 247) = 6.83 Prob > F = 0.0000						

4.4.4. Model Selection Using the Hausman Test

Rejecting the unworkable hypothesis of difference in coefficients not systematic to the shortest pressure of CG variables on FP of the banks on the NSE in India. A synthesis of the findings was shown in the Hausman test table, which had a chi-square value of 75.35 and a statistically significant probability value of 000. Given that this suggests that the theory has an impact, the permanent effect model is the most appropriate.

Table 4 12: Hausman Test of Corporate Governance and Financial Performance.

Husman Test				
	 Coefficients			
	B	(B)	(b-B)	sqrt(V_b-V_B)
	Fixed	random	Difference	S.E.
CEO Duality	10.019	11.421	-1.402	0.936
IND	0.262	0.221	0.041	.
BGD	-1.863	-3.743	1.881	0.131
BSZ	0.952	1.211	-0.259	0.084
FBM	-0.570	-0.727	0.156	0.085
ACS	0.304	0.530	-0.226	.
ACM	0.001	0.005	-0.004	0.057
RMCS	-0.997	-1.108	0.111	.
RMCM	-0.335	-0.452	0.117	0.152
FMCS	-0.633	-1.063	0.430	0.113
FMCM	1.014	0.406	0.608	0.053
Bank Age	-0.202	-0.020	-0.182	0.042
Bank Size	-12.594	-0.081	-12.513	2.014
LEV	0.035	0.087	-0.052	0.053
	b = consistent under Ho and Ha; obtained from xtreg			
	B = inconsistent under Ha, efficient under Ho; obtained from xtreg			
	Test: Ho: difference in coefficients not systematic			
	chi2(14) = (b-B)'[(V_b-V_B)^(-1)](b-B)= 75.35			
	Prob>chi2 = 0.0000 (V_b-V_B is not positive definite)			

4.4.5. Hypothesis Testing

- H1: Corporate Governance factor has a significant impact on the financial performance of the Scheduled Commercial Banks (SCBs) in India.

CEO Duality: Results of the board of directors' traits and FP of the commercial scheduled banks in India are shown in the regression (table 4.11). The analysis of the t-test indicated a rough and ready value of 2.800, a standard error (SE) of 3.458, a coefficient value of 10.019, and a probability value of 0.004 0.05, according to the results. Therefore, at the significance level of (Coef= 10.019, p 0.05), it suggests that CEO duality was successful on FP. It was possible to get the conclusion that CEO duality aided FP.

Board Independence: The regression (table 4.11) indicates the grades on the composition of the board of directors and FP of the commercial scheduled banks in India. The results demonstrated that (ROE) FP is positively and statistically significantly impacted by the board's independence (Coef= 0.262, p 0.05). That points to the fact that the board's independence has aided the bank's performance.

Board Size: The directorial board qualities and FP of India's scheduled commercial banks are shown by the regression (table 4.11) findings. Based on the results, the t-test analysis yielded an estimated value of 2.89, a standard error (SE) of 0.329, a coefficient value of 0.9521, and a p-value of 0.004, which is below the significance level of 0.05. There was a positive and statistically

significant effect of board size on FP at the 5% significance level. The board size has helped the bank succeed with these resources.

Frequency of Board Meetings: The above regression (table 4.11) clearly shows that the outcomes of the BoD and the FP of the business have been scheduled in the monetary and private banks in India. The outcomes and the result of the cost and the prices of the t-test have a value of -2.150. The standard issues or SE value is 0.265, and the coefficient value is -0.570. The outcomes of p are from 0.032 to 0.05. Hence, the above values and the result show a negative impact on the financial banks as the significance level is 5%. The board meeting must be stopped to increase a bank's performance.

Board Gender Diversity: From the above (table 4.11) regression, it is clear that the CG and the factors of the FP schedule the work process of the banking sector in India. The monetary works of a bank have measured the ROE, and the outcome of the t-test is 2.37. The value of the SE is 0.786, the CV is -1.86, and the value of p is from 0.019 to 0.05. The above value and the result show that the level of significance is 5%, and there is a negative effect of the BGD in the banking sector in India.

Audit Committee Size: The table of regression (table 4.11) shown in the study gives the result and the outcomes of the FP and the CG affecting the corporate sector in India. The value that is provided from the measurement process of the ROE comes from the t-test. The estimated value of the test is 0.70, and the value of the SE is 0.432. The probability value of the test was 0.4852. The values and the result show that the effect of the audit committee is helpful for the growth and development of the monetary sector in India.

Audit Committee Meetings: A regression (table 4.11) about the effect of FP and CG are shown in the study, and the result of the regression, Table 4.11, shows that the ROE measures the performance. From the above test, the probability value of the test is from the value 0.998 to the value 0.05, and the SE of the test is 0.00. The significance level of the ROE in the Indian banking sector is 5%. Therefore, it can be estimated that the audit committee meeting has great significance on the performance of the bank and the financial sectors in the Indian financial industries.

Risk Management Committee Size: The effect of risk control on the committee size can be determined by the above regression (table 4.11), is made a good impact on the performance of the financial sector of the Indian banking industry. The value of the t-test and the SE of the banking sector, which is given from the above regression table, are -1.93 and 0.518. The value of the coefficient of the table is -0.097, and the value of p is from 0.055 to the value 0.10. The significance level of the value estimated from the ROE is 10%. The value shows that there is an effective impact of the risk control committee on the market size of the Indian banking sector.

Risk Management Committee Meetings: The regression (table 4.11) shows that CG characteristics have an impact on the scheduled commercial banks in India's FP. The findings demonstrated that the RMCM had no appreciable impact on ROE, in accordance with the results. The t-test value was assessed as -0.52, with a standard error (SE) of 0.642 and a coefficient value of -0.335, and a probability value of $0.602 > 0.05$. As a result, it was shown that the size of the threat control committee had an insignificant and adverse connection with ROE.

This indicates that the meetings of the Threat Control Committee have backed up bank performance.

Fraud Management Committee Size and Meetings: Based on the regression table, it can be shown that the t-test value for the FMCS variable is -1.29, with a corresponding standard error (SE) of 0.491. The coefficient value for the FMCS variable is -0.633, and the p-value is 0.199, which above the significance level of 0.05. These findings suggest that the FMCS variable does not have a significant influence on the return on equity (ROE). At a significance level of (-0.633, $p < 0.05$), a statistically significant negative association was observed between the size of the fraud management committee and the return on equity (ROE). The results of the analysis indicate that the t-test value of 2.230, in conjunction with a standard error (SE) of 0.455, a coefficient value of 1.014, and a p-value of 0.027 (which is below the predetermined significance level of 0.05), provide evidence that the meetings of the fraud management committee exert a statistically significant impact on FP.

The fixed effects (within) model showed that 10.51% of the variance in FP could be determined by CEO Duality, IND, BSZ, FBM, BGD, ACS, ACM, RMCS, RMCM, FMCS, FMCM, Bank Age, Bank Size and Leverages as revealed in the regression results presented in the (table 4.11). The R-Squared inside further demonstrated, based on the variation within each bank, 39.37% of the FP variation could be attributable to CG variables, while R-Squared results indicated that CG elements account for 23.05% of various FP components. When the model's F-value is 12.34, and its P-value is 0.000 and $p < 0.05$, we can state that the model is significant.

4.5. Impact of Intellectual Capital on the Financial Performance of Banks

Objective2: To find the IC impact of the FP of the commercial schedule banks in India.

H2: IC has a significant impact on the FP of the commercial schedule banks in India.

4.5.1. Diagnostic Tests of the Data

(Brooks, 2008) makes the case that it is essential to evaluate the data sets for the assumptions of the basic linear regression model and to carry out pertinent diagnostic tests before utilizing ordinary least squares (OLS) estimation for testing a hypothesis and estimating coefficients. The typical linear regression model's underlying assumptions and the associated diagnostic tests are listed below.

Table 4 13: Linear Regression of Intellectual Capital and Financial Performance.

Linear Regression						
Source	SS	df	MS	Number of obs	=	286
				F(4, 281)	=	12.080
Model	10080.57	4	2520.144	Prob > F	=	0.000
Residual	58626.65	280	208.636	R-squared	=	0.147
				Adj R-squared	=	0.135
Total	68707.23	285	241.078	Root MSE	=	14.444
ROE	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
VAIC	1.377	0.325	4.23	0.000	0.737	2.017
BankAge	0.007	0.031	0.23	0.815	-0.054	0.068
BankSize	-0.714	0.237	-3.02	0.003	-1.180	-0.248
LEV	0.088	0.027	3.22	0.001	0.034	0.142
_cons	-4.204427	5.017536	-0.84	0.403	-14.08115	5.672301

Note: VAIC; Value Added Intellectual Coefficient, ROE: Return on Equity, Bank Age, LEA; Leverage.

A) Jarque-Bera - Normality Test:

It is possible to assess the normalcy assumption, which claims that prediction errors are distributed regularly, using the Jarque-Bera statistics. This test has a p-value of more than 5% and an asymptotic two-degree of freedom distribution. The null hypothesis cannot be ruled out according to the chi (2) value of 0.2701, which shows that the residuals are typically distributed. Additionally, because the Skewness probability value is less than 0.05 and the Kurtosis probability value is more than 0.05, the Skewness and Kurtosis tests show that the data is regularly distributed. In addition, the chi (2) value is higher than 0.05 and is 0.0616, indicating that the null hypothesis cannot be ruled out.

Table 4 14: Normality Test of Intellectual Capital and Financial Performance.

Skewness/Kurtosis tests for Normality					
				 joint	
Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	adj chi2(2)	Prob>chi2
resid	286	0.0288	0.5324	5.57	0.0616
Jarque-Bera Normality Test					
Jarque-Bera normality test: 5.365 Chi(2) 0.0684					
Jarque-Bera test for Ho: normality:					

B) Heteroscedasticity

The hypothesis that the variance of errors must remain unchanged in the presence of heteroscedasticity was put through the model's 'white test,' which was designed to assess whether or not this is a valid assumption (see Table 4.15). It was discovered that the model did not exhibit heteroscedastic behaviour since the p-value, which was 0.05, was equal to 0.05. It was also determined that the error variance did not change because the p-value was more than 0.05. As a direct consequence of this, it was not discovered that the idea that there would be no effect was incorrect.

Table 4 15: Heteroscedasticity of Intellectual Capital and Financial Performance.

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity				
Ho: Constant variance				
Variables: fitted values of ROE				
chi2(1) =	8.3			
Prob > chi2 =	0.05			
Cameron & Trivedi's decomposition of IM-test				
Source	chi2	df	P	
Heteroskedasticity	83	53	0.0453	
Skewness	9.91	9	0.3579	
Kurtosis	0.13	1	0.7174	
Total	93.04	63	0.0083	

C) Variance Inflation Factor (VIF)

The VIF test yielded results between 1.62 and 1.16 (Table 4.16). Multicollinearity is cause for concern if the value of VIF is greater than 10 (Gujarati & Porter, 2010). Therefore, from the perspective of the VIF, there are no potential issues with this investigation. It has been determined through diagnostic testing that there is no multicollinearity issue. There are less than ten variables in total. Consequently, multicollinearity issues do not affect the study's findings when employing the model.

Table 4 16: Variance Inflation Factor (VIF) of Intellectual Capital and Financial Performance.

Variable	VIF	1/VIF
Bank Age	1.62	0.616461
Bank Size	1.56	0.640177
LEV	1.21	0.825968
VAIC	1.16	0.861183
Mean VIF	1.39	

D) 4.5.2.1.4 Auto Correlation

According to Turner (2020), a range of 1.50 - 2.50 is considered appropriate. The Durbin-Watson statistic has a low value (less than 1.50), suggesting a positive relationship, while a high value (more than 2.50) shows a negative relationship. The Durbin-Watson statistic value is 1.951, meaning there is no autocorrelation.

Table 4 17: Autocorrelation of Intellectual Capital and Financial Performance.

Auto correlation						
Source	SS	Df	MS	Number of obs	=	260
				F(4, 281)	=	4.730
Model	2057.07	4	514.269	Prob > F	=	0.001
Residual	27741.27	255	108.789	R-squared	=	0.069
				Adj R-squared	=	0.054
Total	29798.35	259	115.052	Root MSE	=	10.430
ROE	Coef.	Std. Err.	T	P>t	[95% Conf.	Interval]
VAIC	1.299	0.472	2.75	0.006	0.370	2.228
Bank Age	0.083	0.086	0.97	0.335	-0.086	0.251
Bank Size	-1.516	0.638	-2.38	0.018	-2.771	-0.260
LEV	0.148	0.055	2.68	0.008	0.039	0.256
_cons	-9.110257	9.471262	-0.96	0.337	-27.76211	9.541599
roh	0.734					
Durbin-Watson Statistic (original) 0.551234						
Durbin-Watson Statistic (transformed) 1.951701						

4.5.2. Direct Effect- Random Effect Model

The random effect model, which assumes that individuals are uncorrelated with other independent variables, was used to estimate the coefficients. The regression results of the random model, displayed in Table 4.18, revealed that VAIC, Bank Age, Bank Size and leverage accounted for 11.94% of the change in FP, as indicated by the overall R-squared. Moreover, the R-Squared within showed that 12.97% of the financial variation was explained by

VAIC based only on the variation within each bank, while the R-Squared between indicated that 22.05% of financial performance variation was accounted for by VAIC.

Table 4 18: Random Effect Model of Intellectual Capital and Financial Performance.

Random-effects GLS regression						
Random-effects GLS regression					Number of obs =	286
Group variable:	Code				Number of groups =	26
R-sq:					Obs per group:	
within =	0.1297				min=	11
between =	0.2205				avg=	11
overall =	0.1194				max=	11
					Wald chi2(14)	33.39
corr(u_i, X) =	0 (assumed)				Prob > chi2	0.000
ROE	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
VAIC	1.832	0.421	4.35	0.000	1.006	2.657
Bank Age	-0.899	0.061	-1.48	0.138	-0.209	0.029
Bank Size	-0.466	0.477	-0.98	0.329	-1.401	0.469
LEV	0.021	0.048	0.44	0.660	-0.073	0.115
_cons	-2.88475	7.417294	-0.39	0.697	-17.42237	11.65288
sigma_u	6.618					
sigma_c	10.556					
Rho	0.282	(fraction of variance due to u_i)				

Note: VAIC; Value Added Intellectual Coefficient, ROE: Return on Equity, Bank Age, LEA; Leverage.

4.5.3. Direct Effect – Fixed Effect Model

The VAIC, Bank Age, Bank Size, and Leverage have estimated coefficients, which implied that individual or group effects were uncorrelated with other independent variables, according to the fixed effects (within) model. As observed in the overall R-squared, the regression results for this model showed that VAIC, Bank Age, Bank Size, and Leverage explained 5.19% of the total variation in FP. In addition, the R-Squared analysis revealed that, based solely on the variation within each bank, VAIC accounted for 41.81% of the variation in FP. According to the R-Squared between, VAIC also accounted for 10.96% of the variation in FP.

Regression findings for the fixed effect model are shown in the analysis table 4.19. According to the table, VAIC positively affects financial performance ($\beta = 1.478$, $P < 0.05$). One unit increase in VAIC equals a 1.478 unit increase in financial performance.

Table 4 19: Fixed Effect Model of Intellectual Capital and Financial Performance.

Fixed-effects robust (within) regression						
Fixeed-effects (within) regression					Number of obs = 286	
Group variable:	Code				Number of groups = 26	
R-sq:					Obs per group:	
within =	0.4181				min=	11
between =	0.1096				avg=	11
overall =	0.0519				max=	11
					F (4, 256)	45.98
corr(u_i, Xb) =	-0.9915				Prob > F	0.000
ROE	Coef.	Std. Err.	t	p > t	95% Conf.	Interval
VAIC	1.478	0.438	3.380	0.001	0.617	2.340
BankAge	-2.474	0.345	-7.180	0.000	-3.153	-1.795
BankSize	-0.190	4.074	-0.050	0.963	-8.213	7.833
LEV	0.146	0.072	2.050	0.042	0.006	0.287
_cons	173.385	24.987	6.940	0.000	124.179	222.591
sigma_u	88.734					
sigma_e	10.556					
Rho	0.986	(fraction of variance due to u_i)				
F test that all u_i=0: F(25, 2256) = 10.81 Prob > F = 0.0000						

Note: V AIC; Value Added Intellectual Coefficient, ROE: Return on Equity, Bank Age, LEA; Leverage.

4.5.4. Model Selection Using the Hausman Test

Rejecting the unworkable hypothesis of difference in coefficients not systematic to the shortest pressure of IC variables on FP of the banks on the NSE in India. A summary of the data was shown in the Hausman test table 4.20, which had a chi-square value of 150.24 and a statistically significant probability value of

000. Given that this suggests that the theory has an impact, the permanent effect model is the most appropriate.

Table 4 20: Hausman Test of Intellectual Capital and Financial Performance.

Husman Test				
	 Coefficients			
	b	(B)	(b-B)	sqrt(V_b-V_B)
	fixed	random	Difference	S.E.
VAIC	1.478	1.832	-0.353	0.119
Bank Age	-2.474	-0.090	-2.384	0.339
Bank Size	-0.190	-0.466	0.276	4.046
LEV	0.146	0.021	0.125	0.053
	b = consistent under Ho and Ha; obtained from xtreg			
	B = inconsistent under Ha, efficient under Ho; obtained from xtreg			
	Test: Ho: difference in coefficients not systematic			
		$\chi^2(14) = (b-B)'[(V_b-V_B)^{-1}](b-B)$		
		= 150.24		
		Prob>chi2 = 0.0000		
		(V_b-V_B is not positive definite)		

4.5.5. Test of Hypothesis

H2: IC has a significant impact on the FP of commercial scheduled banks in India.

The findings of this study are incongruent with prior research, like (Zéghal & Maaloul, 2010); (Clarke et al., 2011); (Alipour, 2012); (Pal & Soriya, 2012) and (Al-Musali & Ismail, 2014). Those studies assure that the improvement in the firm is related to the efficiency of Intellectual and Physical Capital. Also, they guaranteed that the achievement of distinguished and continuous financial performance is contingent on the capability of those resources to generate a value-added and positively affect the financial performance. This was done to ensure that the achievement of this goal is possible.

The findings of assessing the association between VAIC and FP reveal that there is a positively effect of the variable VAIC on ROE for Banks at a significance level of 5%, as shown by the regression analysis in the table (4.19), which demonstrations that IC has a positively impact on FP (Coef= 1.478, P 0.05). This suggests that the independent variable VAIC has a positive influence and significantly effects in the dependent variable ROE commercial scheduled banks in India. This is indicated by the fact that this is the case. This indicates that the hypothesis was supported to the extent that it related to the banks' financial performance.

4.6. Impact of Intellectual Capital Factors on Bank's Performance

Objective 2.1: To find the IC factors that impact the FP of the commercial schedule banks in India.

H2.1: Intellectual capital factors have a significant impact on the financial performance of commercial scheduled banks in India.

4.6.1. Diagnostic Tests of the Data

Through the help of the valid test, estimation of the coefficient test has been done before using OLS estimation. On the other hand, (Brooks, 2008) argued that assumptions associated with diagnostic tests and standard linear regression should be implemented and meet their criteria before doing OLS estimation.

Table 4 21: Linear Regression of Intellectual Capital Factors and Financial Performance

Linear Regression						
Source	SS	Df	MS	Number of obs	=	286
				F(16, 269)	=	15.610
Model	12619.87	6	2103.312	Prob > F	=	0.000
Residual	37581.67	279	134.701	R-squared	=	0.251
				Adj R-squared	=	0.235
Total	1966.95	285	6.902	Root MSE	=	11.606
ROE	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
HCE	-2.338	0.959	-2.44	0.015	-4.226	-0.451
SCE	299.758	78.281	3.83	0.000	145.662	453.854
CEE	196.240	80.107	2.45	0.015	38.550	353.930
Bank Age	-0.018	0.024	-0.73	0.465	-0.065	0.030
Bank Size	-0.583	0.206	-2.83	0.005	-0.988	-0.178
LEV	0.182	0.047	3.91	0.000	0.090	0.274
_cons	-250.181	59.819	-4.18	0.000	-367.935	-132.428

A) Jarque-Bera - Normality Test:

It is possible to assess the normalcy assumption, which claims that prediction errors are distributed regularly, using Jarque-Bera statistics. This test has a p-value of more than 5% and an asymptotic two-degree of freedom distribution. The null hypothesis cannot be ruled out according to the chi (2) value of 0.131, which shows that the residuals are typically distributed. Additionally, because the Skewness probability value is lower than 0.05 and the Kurtosis probability value is higher than 0.05, the Skewness and Kurtosis tests show that the data is

regularly distributed. In addition, the chi (2) value is higher than 0.05 and is 0.1236, indicating that the null hypothesis cannot be ruled out.

Table 4 22: Normality Test of Intellectual Capital Factors and Financial Performance.

Skewness/Kurtosis tests for Normality					
				 joint	
Variable	obs	Pr(Skewness)	Pr(Kurtosis)	adj chi2(2)	Prob>chi2
resid	286	0.0426	0.8268	4.18	0.1236
Jarque-Bera Normality Test					
Jarque-Bera normality test: 4.065 Chi(2) 0.131					
Jarque-Bera test for Ho: normality:					

B) Heteroscedasticity

The hypothesis that the variance of errors must remain unchanged in the presence of heteroscedasticity was put through the model's 'white test,' which was designed to assess whether or not this is a valid assumption (see Table 4.23). It was discovered that the model did not exhibit heteroscedastic behaviour since the p-value, which was 0.6878, was greater than 0.05. It was also determined that the error variance did not change for the reason the p-value was more than 0.05. As a direct consequence of this, it was not discovered that the idea that there would be no effect was incorrect.

Table 4 23: Heteroscedasticity of Intellectual Capital Factors and Financial Performance.

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity				
Ho: Constant variance				
Variables: fitted values of VAIC				
chi2(1) = 45.68	0.16			
Prob > chi2 = 0.0000	0.6878			
Cameron & Trivedi's decomposition of IM-test				
Source	chi2	Df	p	
Heteroskedasticity	57	43	0.074	
Skewness	23.7	8	0.003	
Kurtosis	0	1	0.991	
Total	80.8	52	0.006	

C) Variance Inflation Factor (VIF)

The results of the VIF evaluation, between the range of 1.62 to 1.16 (Table 4.24), suggest that there is no multicollinearity in this research (Gujarati & Porter, 2010). As the values are lower than 10, the diagnosis confirms that no multicollinearity issues are present. Furthermore, the total number of determinants is lower than ten, thereby making it certain that the model does not suffer from multicollinearity issues.

Table 4 24: Variance Inflation Factor (VIF) of Intellectual Capital Factors and Financial Performance.

Variance Inflation Factor(VIF)		
Variable	VIF	1/VIF
HCE	8.97	0.077
SCE	8.21	0.082
BankSize	1.83	0.547
BankAge	1.51	0.662
CEE	1.37	0.731
LEV	1.13	0.882
Mean VIF	3.83	

D) Auto Correlations

According to Turner (2020), a range of 1.50 - 2.50 is considered appropriate. The Durbin-Watson statistic has a low value (less than 1.50), suggesting a positive relationship, while a high value (more than 2.50) shows a negative relationship. The Durbin-Watson statistic value is 2.04 meaning there is no autocorrelation.

Table 4 25: Autocorrelation of Intellectual Capital Factors and Financial Performance.

Durbin - Watson test - Auto correlation						
Source	SS	Df	MS	Number of obs	=	260
				F(16, 279)	=	5.490
Model	1978.74	6	329.790	Prob > F	=	0.000
Residual	15194.37	253	60.057	R-squared	=	0.115
				Adj R-squared	=	0.094
Total	17173.11	259	66.305	Root MSE	=	7.750
ROE	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
HCE	-0.063	0.916	-0.07	0.945	-1.868	1.741
SCE	129.436	68.273	1.9	0.059	-5.020	263.892
CEE	-158.546	92.416	-1.72	0.087	-340.548	23.457
Bank Age	0.018	0.069	0.26	0.797	-0.118	0.154
Bank Size	-1.491	0.526	-2.83	0.005	-2.527	-0.455
LEV	0.239	0.087	2.73	0.007	0.067	0.411
_cons	-90.640	52.996	-1.71	0.088	-195.011	13.730
rho	0.7632048					
Durbin-Watson statistic (original) 0.544312						
Durbin-Watson statistic (transformed) 2.046233						

4.6.2. Direct Effect- Random Effect Model

The outcomes of the regression analysis are displayed in tabular format 4.26, utilizing the random effects model. The present model derives the coefficients by positing that the individual and group effects are not associated with any other exogenous variables. The random model revealed that HCE, SCE, CEE, Bank Age, Bank Size and Leverages explain 22.62% of the overall variance in FP, as measured by R-squared. The R-squared within indicated that 11.09% of the financial variation was explained by VAIC factors based on the variance among every bank, whereas the R-squared relationship demonstrated that VAIC factors explained 48.82% of the financial performance variation.

Table 4 26: Random Effect Model of Intellectual Capital Factors and Financial Performance.

Random-effects GLS regression						
Random-effects GLS regression					Number of obs =	286
Group variable:	Code				Number of groups =	26
R-sq:					Obs per group:	
within =	0.1109				min=	11
between =	0.4882				avg=	11
overall =	0.2262				max=	11
					Wald chi2(6)	52.44
corr(u_i, X) =	0 (assumed)				Prob > chi2	0
ROE	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
HCE	-1.371	1.004	-1.37	0.172	-3.34	0.597
SCE	245.489	80.832	3.04	0.002	87.061	403.916
CEE	49.442	94.665	0.52	0.601	-136.1	234.983
Bank Age	-0.056	0.038	-1.49	0.136	-0.13	0.018
Bank Size	-0.6	0.308	-1.95	0.052	-1.205	0.004
LEV	0.097	0.066	1.48	0.139	-0.032	0.225
_cons	-194.12	62.178	-3.12	0.002	-315.99	-72.256
sigma_u	3.471					
sigma_e	8.327					
rho	0.148	(fraction of variance due to u_i)				

4.6.3. Direct Effect – Fixed Effect Model

The fixed effect model assumes uncorrelated individual or group effects with independent variables, estimating coefficients. According to the fixed effects (inside) model, HCE, SCE, CEE, Bank Age, Bank Size, and Leverages explained 8.71% of the variation in financial performance for total R-squared, while R-Squared inside revealed that VAIC factors explain 48.33% of financial

performance variation based just on variance inside all banks, despite the fact that R-Squared relationship demonstrated that VAIC components explain 18.09% of the variance in financial performance.

Table 4 27: Fixed Effect Model of Intellectual Capital Factors and Financial Performance.

Fixed-effects robust (within) regression						
Fixed-effects (within) regression					Number of obs=	286
Group variable:	Code				Number of groups = 26	
R-sq:					Obs per group:	
within =	0.4833				min=	11
between =	0.1809				avg=	11
overall =	0.0871				max=	11
					F (6, 254)	39.6
corr(u_i, Xb) =	-0.9913				Prob > F	0
ROE	Coef.	Std. Err.	t	p > t	95% Conf.	Interval
HCE	-0.032	0.835	-0.04	0.97	-1.676	1.613
SCE	156.87	65.56	2.39	0.017	27.758	285.982
CEE	-202.97	88.89	-2.28	0.023	-378.02	-27.909
Bank Age	-2.049	0.271	-7.56	0	-2.582	-1.515
Bank Size	-2.206	3.212	-0.69	0.493	-8.531	4.119
LEV	0.178	0.089	2.01	0.045	0.004	0.353
_cons	57.086	53.63	1.06	0.288	-48.521	162.693
sigma_u	76.848					
sigma_e	8.327					
Rho	0.988	(fraction of variance due to u_i)				
F test that all u_i=0: F(25, 254) = 11.52					Prob > F = 0.0000	

4.6.4. Model Selection Using the Hausman Test

Rejecting the unworkable hypothesis of difference in coefficients not systematic to the shortest pressure of IC variables on FP of the banks on the NSE in India. An overview of the gathered information was shown in the Hausman test table 4.28, which had a chi-square value of 292.49 and a statistically significant probability value of 0.000. Given that this suggests that the theory has an impact, the permanent effect model is the most appropriate.

Table 4 28: Hausman Test of Intellectual Capital Factors and Financial Performance.

Husman Test				
	 Coefficients			
	b	(B)	(b-B)	sqrt(V_b-V_B)
	fixed	Random	Difference	S.E.
HCE	-0.032	-1.371	1.340	
SCE	156.870	245.489	-88.619	
CEE	-202.966	49.442	-252.408	
Bank Age	-2.206	-0.056	-1.992	0.268
Bank Size	-2.206	-0.600	-1.605	3.197
LEV	0.178	0.097	0.081	0.059
	b = consistent under Ho and Ha; obtained from xtreg			
	B = inconsistent under Ha, efficient under Ho; obtained from xtreg			
	Test: Ho: difference in coefficients not systematic			
	$\chi^2(14) = (b-B)'[(V_b-V_B)^{-1}](b-B) = 292.49$			
	Prob>chi2 = 0.0000 (V_b-V_B is not positive definite)			

4.6.5. Test of Hypothesis

H2.1: IC factors have a significant influence on the FP of commercial scheduled banks in India.

HCE: The findings of the regression report demonstrated that the outcome of the t-test showed a predicted value of -0.040, a standard error (SE) of 0.835, a value for the coef-value of -0.032, and a p-value of $0.970 > 0.05$, when measuring the financial performance of the commercial scheduled banks in India by ROE. The findings indicated that HCE had an insignificant effect on FP.

SCE: The hypothesis stated that the SCE positively impacts the FP of commercial scheduled banks listed on the NSE in India. The findings from the regression analysis presented in the table indicate that the coefficient for SCE is significant at a 5% level ($\beta = 156.870$, $P < 0.05$). However, the coefficient is positive, indicating a considerable effect on FP. Hence, the hypothesis is accepted.

CEE: According to the regression table 4.27, the results about intellectual capital factors impact on the FP of the SCBs in India. The findings demonstrated that the CEE had a substantial impact on the ROE. According to the findings, the estimated value of the t-test was -2.280, the standard error (SE) was 88.891, the coefficient value was -202.966, and the p-value was $0.023 < 0.05$. Thus, the evidence suggested that CEE had a statistically negative association with ROE at the level of significance of (Coef= -202.966, p 0.023).

4.7. Impact of Corporate Governance on intellectual capital

Objective 3: To investigate whether CG factors influence the IC of SCBs in India.

H3: CG factors do have a significant impact on the IC of SCBs in India.

4.7.1. Diagnostic Tests of the Data

With the help of the valid test, estimation of the coefficient test has been done before using OLS estimation. On the other hand, (Brooks, 2008) argued that assumptions associated with diagnostic tests and standard linear regression should be implemented and meet their criteria before doing OLS estimation.

Table 4 29: Linear Regression of Corporate Governance on Intellectual Capital.

Linear Regression model						
Source	SS	Df	MS		Number of obs =	286
					F(14, 271) =	34.24
Model	1463.523	14	104.537		Prob > F =	0.000
Residual	827.269	271	3.053		R-squared =	0.639
					Adj R-squared =	0.620
Total	2290.792	285	8.038		Root MSE =	1.747
VAIC	Coef.	Std. Err.	t	P>t	95% Conf.	Interval
CEO Duality	0.840	0.589	1.430	0.155	-0.319	1.999
IND	0.147	0.042	3.530	0.000	0.065	0.230
BGD	-0.341	0.135	-2.530	0.012	-0.606	-0.075
BSZ	0.478	0.068	7.040	0.000	0.344	0.611
FBM	0.282	0.040	7.040	0.000	0.203	0.361
ACS	-0.022	0.076	-0.290	0.769	-0.173	0.128
ACM	0.121	0.046	2.610	0.010	0.030	0.213
RMCS	-0.063	0.073	-0.860	0.391	-0.207	0.081
RMCM	0.031	0.017	1.880	0.061	-0.001	0.064
FMCS	-0.244	0.074	-3.310	0.001	-0.390	-0.099
FMCM	0.202	0.033	6.070	0.000	0.137	0.268
Bank Age	-0.018	0.004	-4.160	0.000	-0.026	-0.009
Bank Size	0.031	0.037	0.850	0.398	-0.041	0.104
LEV	-0.001	0.004	-0.150	0.882	-0.009	0.008
_cons	0.479	1.128	0.420	0.671	-1.741	2.699

A) Normality

It is possible to assess the normalcy assumption, which claims that prediction errors are distributed regularly, using the “Jarque-Bera” statistics. This test has a probability value of more than 5% and an asymptotic two-degree of freedom distribution. The null hypothesis cannot be ruled out according to the chi (2) value of 0.2832, which shows that the residuals are typically distributed. Additionally, because the Skewness probability value is less than 0.05 and the Kurtosis probability value is more than 0.05, the Skewness and Kurtosis tests show that the data is regularly distributed. In addition, the chi (2) value is higher than 0.05 and is 0.2748, indicating that the null hypothesis cannot be ruled out.

Table 4 30: Normality Test of Corporate Governance on Intellectual Capital.

Skewness/Kurtosis tests for Normality					
				 joint.....	
Variable	obs	Pr(Skewness)	Pr(Kurtosis)	adj chi2(2)	Prob>chi2
resid	286	0.5397	0.1388	2.58	0.2748
Jarque-Bera Normality Test					
Jarque-Bera normality test: 2.523 Chi(2) .2832					
Jarque-Bera test for Ho: normality:					

B) Heteroscedasticity

The hypothesis that the variance of errors must remain unchanged in the presence of heteroscedasticity was put through the model's 'white test,' which was designed to assess whether or not this is a valid assumption (see Table 4.31). It was discovered that the model did not exhibit heteroscedastic behaviour

since the p-value, which was 0.1625, was greater than 0.05. It was also determined that the error variance did not change for the reason the p-value was more than 0.05. As a direct consequence of this, it was not discovered that the idea that there would be no effect was incorrect.

Table 4 31: Heteroscedasticity of Corporate Governance on Intellectual Capital.

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity				
Ho: Constant variance				
Variables: fitted values of VAIC				
chi2(1)	=			
1.95				
Prob > chi2 = 0.1625				
Cameron & Trivedi's decomposition of IM-test				
Source	chi2	df	p	
Heteroskedasticity	147.81	118	0.329	
Skewness	20.81	14	0.1065	
Kurtosis	3.26	1	0.071	
Total	171.88	133	0.0131	

C) Autocorrelation

According to Turner's (2020) findings, a permissible interval falls within the range of 1.50 to 2.50. A Durbin-Watson statistic below 1.50 is indicative of a positive correlation, whereas a value above 2.50 suggests a negative correlation.

The Durbin-Watson statistic value of 1.88 indicates the absence of autocorrelation.

Table 4 32: Autocorrelation of Corporate Governance on Intellectual Capital.

Durbin - Watson test - Auto correlation						
Source	SS	df	MS	Number of obs	=	286
				F(15, 270)	=	27.220
Model	558.89	15	37.259	Prob > F	=	0.000
Residual	369.55	270	1.369	R-squared	=	0.602
				Adj R-squared	=	0.580
Total	928.44	285	3.258	Root MSE	=	1.170
VAIC	Coef.	Std. Err.	T	P>t	[95% Conf.	Interval]
CEO Duality	-0.170	0.590	-0.29	0.773	-1.331	0.990
IND	0.097	0.028	3.46	0.001	0.042	0.153
BGD	-0.203	0.126	-1.61	0.108	-0.452	0.045
BSZ	0.230	0.047	4.93	0.000	0.138	0.323
FBM	0.110	0.034	3.27	0.001	0.044	0.176
ACS	-0.024	0.048	-0.51	0.612	-0.118	0.070
ACM	0.105	0.036	2.94	0.004	0.035	0.176
RMCS	0.025	0.052	0.49	0.626	-0.077	0.127
RMCM	0.041	0.063	0.65	0.519	-0.083	0.164
FPMS	-0.180	0.059	-3.05	0.002	-0.296	-0.064
FPMM	0.113	0.028	4.08	0.000	0.059	0.168
Bank Age	-0.025	0.011	-2.38	0.018	-0.046	-0.004
Bank Size	-0.004	0.083	-0.05	0.964	-0.167	0.160
LEV	-0.005	0.004	-0.73	0.469	-0.019	0.009
_cons	7.196	1.335	5.39	0.000	4.568	9.824
rho	0.8411907					
Durbin-Watson statistic (original) 0.696377						
Durbin-Watson statistic (transformed) 1.883294						

D) Variance Inflation Factor (VIF)

Testing with the VIF (Gujarati & Porter, 2010) revealed that the values ranged from 1.75 to 2.59 (Table). Since the VIF values are below 10, there is no need to be concerned about the issue of multicollinearity. The number of variables in the model is less than 10, further indicating that the study results are not affected by multicollinearity. Consequently, the diagnostic testing has determined that the study does not suffer from any multicollinearity issues.

Table 4 33: Variance Inflation Factor (VIF) of Corporate Governance on Intellectual Capital.

Variance Inflation Factor (VIF)		
Variable	VIF	1/VIF
Bank Size	2.59	0.385
CEO Duality	2.21	0.453
LEV	2.07	0.483
Bank Age	2.07	0.483
RMCS	2.01	0.497
IND	1.99	0.503
FMCS	1.86	0.539
ACS	1.62	0.616
BSZ	1.62	0.618
FMCM	1.45	0.692
FBM	1.37	0.728
ACM	1.33	0.750
RMCM	1.18	0.847
BGD	1.13	0.886
Mean VIF	1.75	

4.7.2. Direct Effect- Random Effect Model

The regression results of this model are presented in Table 4.34. The random effect framework was used to estimate the coefficients. The random model indicated that 59.98% of the variance in intellectual capital performance could be explained by CEO Duality, IND, BSZ, FBM, BGD, ACS, ACM, RMCS, RMCM, FMCS, FMCM, Bank Age, Bank Size, and Leverage in terms of the overall R-squared. Moreover, 40.97% and 69.51% of the variation in intellectual capital was explained by corporate governance factors based on the variation within and between each bank, respectively.

From **Table 4.34**, the presence of CEO duality was discovered to have a positively significant impact on intellectual capital (coef = 1.328, P 0.05). Similar findings were observed for the independence of the board and the ICP ($\beta = 0.115$, $P < 0.05$). The presence of women on boards has an unfavorable and statistically significant impact on the ICP of the banks ($\beta = -0.438$, $P < 0.05$), highlighting that a one-unit rise in BGD would result in a 0.438-unit drop in the performance of intellectual capital. Board size positively impacted ($\beta = 0.336$, $P < 0.05$), and FBM's impact on ICP was statistically positive significant ($\beta = 0.214$, $P < 0.05$), indicating that BSZ and FBM growth by one unit leads to a 0.336 and 0.214-unit rise in intellectual capital performance, respectively. ACS had a negative impact but was insignificant ($\beta = -0.051$, $P > 0.05$). The effect of ACM on ICP was positively significant ($\beta = 0.123$, $P < 0.05$). The RMCS and RMCM did not have a notable effect on the ICP ($\beta = -0.017$, $P > 0.05$) and ($\beta = 0.021$, $P > 0.05$). FMCS had a negative impact but was not statistically significant ($\beta = -0.191$, $P > 0.05$). The ICP has been positively influenced by

FMCM ($\beta = 0.182$, $P < 0.05$), suggesting that a rise of one unit in FMCM leads to a 0.182-unit increase in intellectual capital performance. All the control variables had a statistically significant impact on ICP except bank size.

Table 4 34: Random Effect Model of Corporate Governance on Intellectual Capital.

Random-effects GLS regression						
Random-effects GLS regression					Number of obs =	286
Group variable:	Code				Number of groups =	26
R-sq:					Obs per group:	
within =	0.4097				min=	11
between =	0.6951				avg=	11
overall =	0.5998				max=	11
					Wald chi2(14)	212.56
corr(u_i, X) =	0 (assumed)				Prob > chi2	0
VAIC	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
CEO Duality	1.328	0.54	2.46	0.014	0.27	2.386
IND	0.115	0.034	3.34	0.001	0.048	0.183
BGD	-0.438	0.122	-3.6	0	-0.676	-0.199
BSZ	0.336	0.058	5.76	0	0.222	0.45
FBM	0.214	0.038	5.58	0	0.139	0.289
ACS	-0.051	0.065	-0.78	0.433	-0.177	0.076
ACM	0.123	0.043	2.85	0.004	0.038	0.208
RMCS	-0.017	0.068	-0.25	0.806	-0.151	0.117
RMCM	0.021	0.013	1.63	0.102	-0.004	0.045
FMCS	-0.191	0.079	-2.43	0.015	-0.346	-0.037
FMCM	0.182	0.036	5.06	0	0.112	0.253
Bank Age	-0.02	0.01	-1.94	0.052	-0.04	0
Bank Size	0.046	0.084	0.54	0.587	-0.12	0.211
LEV	0.012	0.007	1.81	0.07	-0.001	0.025
_cons	2.344	1.364	1.72	0.086	-0.33	5.019
sigma_u	1.485					
sigma_e	1.236					
rho	0.591	(fraction of variance due to u_i)				

4.7.3. Direct Effect – Fixed Effect Model

The analysis, **Table 4.35**, reveals that 43.6% of the variance in intellectual capital efficiency is explained by corporate governance elements. It also finds that CEO Duality (coef = 1.052, prob < 0.10), independence of the board (coef. = 0.097, prob < 0.05), and size of the board (coef = 0.311, prob < 0.05) have a statistically positive impact on IC. Furthermore, FBM (coef = 0.178, prob < 0.05) and ACM (coef. = 0.093, prob < 0.10) have significant influences on ICP, with a rise in each resulting in a 0.178 and 0.093 unit increase in ICP, respectively. Conversely, ACS had a negative impact but was statistically insignificant (coef = - 0.057, Prob > 0.05). The findings indicate that ACM has a statistically significant impact on the intellectual capital performance (ICP) (coef = 0.093, Prob < 0.10). Specifically, a one-unit increase in ACM and a 0.093-unit improvement in ICP.

RMCS and RMCN has an insignificant, RMCS has negative (coef. = -0.030, Prob >0.05), and RMCN has a positive (β = 0.016, P > 0.05) impact on intellectual capital performance. FMCS and FMCM had a significant impact on ICP. FMCS had a negative (β = -0.154, P < 0.10), and FMCM had a favorable (coef = 0.170, Prob < 0.05) impact on intellectual capital performance. As a result, one unit increase in FMCS translates to a (-0.154) unit decrease in the ICP and one unit rise in FMCM, creating a (0.170) units increase in the intellectual capital performance.

Table 4 35: Fixed Effect Model of Corporate Governance on Intellectual Capital.

Fixed-effects (within) regression						
Fixed-effects (within) regression				Number of obs =	286	
Group variable:	Code				Number of groups =	26
R-sq:					Obs per group:	
within =	0.302				min=	11
between =	0.473				avg=	11
overall =	0.436				max=	11
					F (14, 25)	17.64
corr(u_i, Xb) =	0.059				Prob > F	0
				(Std. Err. adjusted for 26 clusters in Code)		
VAIC	Coef.	Std. Err.	t	p > t	95% Conf.	Interval
CEO Duality	1.052	0.571	1.84	0.077	-0.124	2.229
IND	0.097	0.035	2.8	0.01	0.025	0.168
BGD	-0.322	0.149	-2.16	0.04	-0.629	-0.015
BSZ	0.311	0.058	5.33	0	0.191	0.432
FBM	0.178	0.036	4.89	0	0.103	0.253
ACS	-0.057	0.051	-1.12	0.272	-0.163	0.048
ACM	0.093	0.046	2.04	0.052	-0.001	0.187
RMCS	-0.03	0.065	-0.46	0.648	-0.163	0.103
RMCM	0.016	0.017	0.97	0.344	-0.018	0.05
FMCS	-0.154	0.093	-1.65	0.091	-0.346	0.038
FMCM	0.17	0.062	2.75	0.011	0.043	0.298
Bank Age	-0.202	0.115	-1.76	0.09	-0.438	0.034
Bank Size	2.424	1.452	1.67	0.107	-0.565	5.414
LEV	0.016	0.014	1.08	0.291	-0.014	0.045
_cons	-6.702	6.369	-1.05	0.303	-19.819	6.414
sigma_u	10.036					
sigma_e	1.236					
rho	0.985	(fraction of variance due to u_i)				
F test that all u_i=0: F(25, 246) = 11.81				Prob > F = 0.0000		

4.7.4. Model Selection Using the Hausman Test

Rejecting the unworkable hypothesis of difference in coefficients not systematic to the shortest pressure of IC variables on FP of the banks on the NSE in India.

A summary of the data was shown in the Hausman test table 4.36, which had a

chi-square value of 37.27 and a statistically significant p-value of 0.000. Given that this suggests that the theory has an impact, the permanent effect model is the most appropriate.

Table 4 36: Hausman Test of Corporate Governance on Intellectual Capital.

Husman Test				
	 Coefficients			
	B	(B)	(b-B)	sqrt(V_b-V_B)
	Fixed	random	Difference	S.E.
CEO Duality	1.052	1.328	-0.275	0.117
IND	0.097	0.115	-0.019	.
BGD	-0.322	-0.438	0.116	0.065
BSZ	0.311	0.336	-0.024	.
FBM	0.178	0.214	-0.036	.
ACS	-0.057	-0.051	-0.007	.
ACM	0.093	0.123	-0.030	.
RMCS	-0.030	-0.017	-0.013	.
RMCM	0.016	0.021	-0.005	.
FMCS	-0.154	-0.191	0.037	0.016
FMCM	0.170	0.182	-0.012	0.005
Bank Age	-0.202	-0.020	-0.182	0.042
Bank Size	2.424	0.046	2.378	0.454
LEV	0.016	0.012	0.003	0.005
	b = consistent under Ho and Ha; obtained from xtreg			
B = inconsistent under Ha, efficient under Ho; obtained from xtreg				
	Test: Ho: difference in coefficients not systematic			
		chi2(14) = (b-B)'[(V_b-V_B)^(-1)](b-B)		
		= 37.27		
Prob>chi2 = 0.0007 (V_b-V_B is not positive definite)				

4.7.5. Test of Hypothesis

The Hausman test was used in this study to examine whether a fixed-effects model or a random-effects model was more suitable for the regression in testing the hypotheses suggested by (Hausman, 1978). According to (Allison and Paul D, 2009), in a regression model, the standard errors from each individual instance may be associated with one another or reliant on one another over time. This contradicts the assumptions on the independence of mistakes that are made for regression. Therefore, a fixed-effects model can be used to address this problem of correlated errors, as it does more than a random-effects model.

H3: Corporate governance factors do have a significant impact on the intellectual capital performance of commercial scheduled banks in India.

CEO-Duality Impact on Intellectual Capital Performance

H3a: CEO Duality has a positive impact on ICP

Hypothesis H3a stated that duality of CEO's has a favorable impact on IC of commercial schedule banks that are listed on the NSE in India. The results in the table 4.35 indicate that the CEO-Duality structure had a beneficial and statistically significant influence on the performance of the IC (Coef. = 1.052, P 0.10). As a result, the hypothesis was validated, and we are able to draw the following conclusion. There is some evidence to support the notion that CEO Duality and ICP are positively correlated.

Board Size Impact on Intellectual Capital Performance

H3b: Board size has a positive impact on Intellectual capital.

Hypothesis H3 stated that the size of the board positively impacts the ICP of commercial scheduled banks listed on the NSE in India. The regression analysis performed in the table shows that the coefficient for the size of the board is significant at 1% ($\beta = 0.311$, $P < 0.05$). Nevertheless, the coefficient has a positive value, indicating a substantial and statistically significant influence on ICP. Hence, the hypothesis is accepted.

Frequency Board Meetings Impact on Intellectual Capital Performance

H3c: FBM has a positive impact on ICP

Hypothesis H3 stated that the FBM have a significant effect on the ICP of commercial scheduled banks listed in the NSE in India. The findings of the regression model table demonstrate that the Frequency board meeting had a positive (Coef.= 0.178, Prob= 0.01) and at the (1%) level of statistically significant association between the FBM and ICP. Which means that Hypothesis H3c is accepted (coef = 0.178, Prob < 0.01).

Board Independence Impact on Intellectual Capital Performance

H3d: Board independence has a positive impact on Intellectual capital.

Hypothesis H3 stated that independence of the board has a positively significant influence on the ICP of commercial scheduled banks listed in NSE in India. The regression table results indicate that independence had a positive and significantly effect on intellectual capital performance. The significance of

board independence (coef = 0.097, Prob < 0.05) means that the hypothesis is accepted.

Board Gender Diversity Impact on Intellectual Capital Performance

H3e: Board Gender Diversity has a positive impact on Intellectual capital

Hypothesis H3 stated that BGD has a positively impact on the ICP of SCBs listed in NSE in India. A regression study demonstrates that a lack of BGD has a substantial and unfavorable effect on ICP. Significance of board gender diversity (coef = -0.322, Prob < 0.05) which means that the board gender diversity hypothesis is accepted.

Audit Committee Size Impact on ICP

H3f: Audit committee size has a positive impact on Intellectual capital.

According to Hypothesis H3, the audit committee size has a beneficial impact on the ICP of commercial scheduled banks that are listed on the NSE in India. A regression study demonstrates that the significance threshold for the size of the audit committee is at (Coef. = -0.057, P > 0.05), which indicates that the hypothesis about the ACS is not supported.

AC Meetings impact on ICP

H3g: Audit committee meetings have a positive impact on Intellectual capital

Hypothesis H3 stated that the AC meetings positively impact the ICP of commercial scheduled banks which are listed on NSE in India. The regression analysis table shows that AC Meetings positively and statistically significantly

impacted ICP. The significance of meetings of audit committees is (coef = 0.093, Prob < 0.05), which factor that the AC meetings hypothesis is accepted. The results of this study align with previous studies undertaken by (li et al., 2012), in which it was also discovered that there is a favorable and substantial association between AC meetings and ICP.

RMC Size Impact on ICP

H3h: RMC Size has a positive impact on ICP

Hypothesis H3 stated that the RMCS has a positively impacts the ICP of scheduled commercial banks in India. The regression analysis table results show that the RMCS is insignificant on the ICP. The RMC Size significance level at (coef = -0.030, Prob > 0.05) means the hypothesis is not supported.

RMC Meetings Impact on ICP

H3i: RMC Meetings have a positive impact on Intellectual capital.

Hypothesis H3 stated that the RCM Meetings positively impact the ICP of commercial scheduled banks listed in NSE in India. Regression analysis table results shows that RCM Meetings had an insignificant impact on ICP (Coef. = 0.016, Prob > 0.05) means the RCM Meetings hypothesis is not supported.

FMC Size Impact on ICP

H3j: FPMS has a positive impact on ICP

Hypothesis H3 has stated that FMC Size has a significantly effect on ICP of commercial scheduled banks listed in NSE in India. The regression analysis table appearances that the FMCS had a negative impact on ICP (coef = -0.154, Prob < 0.05) means the hypothesis is rejected.

FMC Meetings Impact on ICP

H3k: FMC Meetings have a positive impact on ICP.

Hypothesis H3 has stated that the FMC Meetings has a positive impact on Intellectual capital performance of the scheduled commercial banks listed in NSE in India. The regression analysis table shows that FMC Meetings (coef = 0.170, Prob < 0.05) means that the hypothesis is accepted.

Table 4 37: Summary of the Hypothesis 1 Testing.

S. no	Hypothesis1		
1	H1: Corporate governance factors has a significant impact on financial performance of the commercial schedule banks in India	P value	Results
	H1a: CEO Duality has a positive impact on financial performance	P < 0.01	Supported
	H1b: Board size has a positive impact on financial performance	P < 0.01	Supported
	H1c: Frequency Board Meetings has a positive impact on financial performance	P < 0.05	Supported
	H1d: Board independence has a positive impact on financial performance	P < 0.05	Supported
	H1e: Board Gender Diversity has a significant impact on financial performance	P < 0.05	Supported
	H1f: Size of the Audit committee has a positive impact on financial performance	P > 0.10	Not Supported
	H1g: Audit committee meetings has a positive impact on financial performance	P < 0.10	Supported
	H1h: RMC Size has a positive impact on financial performance	P < 0.10	Supported
	H1i: RMC Meetings has a positive impact on financial performance	P > 0.10	Not Supported
	H1j: FMCS has a significant impact on financial performance	P > 0.10	Not Supported
	H1k: FMC Meetings has a positive impact on financial performance	P < 0.05	Supported

Table 4 38: Summary of the Hypothesis 2 Testing

S. no	Hypothesis2	P value	Results
2	H2: Intellectual capital has a significant impact the financial performance of the commercial schedule banks in India.	P < 0.05	Supported

Table 4 39: Summary of the Hypothesis 2.1 Testing

S. no	Hypothesis2.1		
2.1	H2.1: Intellectual capital factors have a significant impact the financial performance of the commercial schedule banks in India.	P value	Results
	H2.1a: HCE have a significant impact the financial performance of the commercial schedule banks in India.	P > 0.01	Not Supported
	H2.1b: SCE have a significant impact the financial performance of the commercial schedule banks in India	P < 0.05	Supported
	H2.1c: CEE has a significant impact the financial performance of the commercial schedule banks in India.	P < 0.05	Supported

Table 4 40: Summary of the Hypothesis 3 Testing

S. no	Hypothesis3		
3	H3: Corporate governance factors do have significant impact on intellectual capital performance of commercial schedule banks in India.	P value	Results
	H3a: CEO Duality has a positive impact on intellectual capital	P < 0.10	Supported
	H3b: Board size has a positive impact on Intellectual capital	P < 0.05	Supported
	H3c: Frequency Board Meetings has a positive impact on Intellectual capital	P < 0.01	Supported
	H3d: Board independence has a positive impact on Intellectual capital	P < 0.05	Supported
	H3e: Board Gender Diversity has a significant impact on Intellectual capital	P < 0.05	Supported
	H3f: Size of the Audit committee has a positive impact on Intellectual capital	P > 0.10	Not Supported
	H3g: Audit committee meetings has a positive impact on Intellectual capital	P < 0.05	Supported
	H3h: RMC Size has a positive impact on Intellectual capital	P > 0.10	Not Supported
	H3i: RMC Meetings has a positive impact on Intellectual capital	P > 0.10	Not Supported
	H3j: FMCS has a significant impact on ICP	P < 0.05	Supported
	H3k: FMC Meetings has a positive impact on ICP	P < 0.05	Supported

5. CHAPTER – 5

FINDINGS AND DISCUSSION

“This chapter was designed for discussion and findings on empirical results drawn from statistical analysis. The impact of each factor of the research model and its alliance with previous studies were discussed”.

5.1. Discussion of Objective 1

Research Objective 1: To find the CG impact on the FP of the commercial schedule banks in India. The hypothesis associated with this objective included H1, which was described as follows.

The results showed that the coefficient value of 10.019 and p-value of $0.004 < 0.05$. As a result, it indicated that having a dual role as CEO was beneficial and had a substantial influence on FP at the significance level of $(= 10.019, p 0.05)$. It could be concluded that CEO duality was supported by (ROE) financial performance. The findings align with (Chang et al., 2019), (Duru et al., 2016), (Wasike, 2019), and (Wicaksono, A. P. N., 2022), who found that CEO duality has a positive effect on (ROE) financial performance. It is best practice for the chairman and CEO of a company to be the same person. This enables management to make independent decisions that are advantageous to the bank and its shareholders, which ultimately leads to an improvement in the FP of the bank as well as an increase in shareholder trust in the mechanisms of good governance.

Board Independence: The findings suggest that the level of board independence has a favourable and statistically noteworthy effect on the ROE (coef = 0.262,

prob < 0.05), suggesting that independence of the board is supported. The positive association can be attributed to the fact that independent directors have fewer impediments, such as personal interests, and are, therefore, more likely to perform better, leading to improved bank performance. The findings (Davis et al., 2007); (Ramdani & Witteloostuijn, 2010); (Chi & Lee, 2010); (Vintila & Stefan Cristian, 2013) and (Zattoni et al., 2017) revealed a correlation that is positively inclined between the board independence and FP.

According to the agency theory, managers are individualistic, opportunistic, and self-serving, so executive oversight by an independent board of directors is required to ensure that executives pursue shareholder interests rather than their own. It is also assumed that independent directors are not influenced by personal interests and that boards with more independent directors can better monitor management. Studies have indicated that more independent members on a bank's board enhances performance and transparency. Furthermore, when the committee of independent directors is not distracted by other committees, which frequently include executives or large shareholders, the bank's performance improves even more.

Board size: The regression analysis revealed that the value of the correlation coefficient was 0.9521, with a significance level of 0.004 at the 5% level of confidence. It was found that board size had a positively influence on FP ($\beta = 0.952$, $p < 0.05$). The assumption is that the board size has a bearing on the bank's worth. The findings are consistent with the studies of (Kiel & Nicholson, 2003); (Henry, 2008) and (Duc & Phan, 2013), the individual(s) who discovered that there is a positive correlation between board size and financial performance.

Similarly, the data supports the notion that big board-size results in optimal value-maximizing outcomes for major corporations (Kalsie & Shrivastav, 2016). Furthermore, the theories of resource reliance and agency, which advocate for the presence of larger boards, lack empirical validity (Garba & Balkisu, 2014).

Frequency board meetings: According to the regression, the results showed a coefficient value of -0.570 and a probability value of $0.032 < 0.05$. Therefore, it stated that the FBM had a negative impact on FP (coef = -0.570, prob < 0.05). The findings demonstrate that a small number of boarding meetings increase the performance of the scheduled commercial banks in India. Previous empirical research (Gafoor et al., 2018); (Grove et al., 2011); (Liang et al., 2013); (Salim et al., 2016); (Vafeas, 1999) and (Lipton & Lorsch, 1992)) is consistent with the hypothesis that there is a negative connection between board meetings and financial success. According to (Vafeas, 1999), directors do not have enough time to discuss ideas. Instead, tedious processes such as presenting management reports and other formalities consume the bulk of meeting time, reducing the amount of time available to outside directors to properly monitor management. According to (Lipton & Lorsch 1992) study, board meetings can have a detrimental effect on financial performance. Additionally, these meetings can be costly due to the allocation of managerial time, travel expenses, refreshments, and fees for attending directors. In the context of organisational management, it is imperative for larger entities to conduct a greater number of meetings to effectively monitor and manage critical aspects of their operations. It is possible that the frequency of board meetings has escalated as a result of

the organisation encountering challenges stemming from insufficient planning or suboptimal performance. The agenda of the meeting on leveraging bank resources would take it into consideration.

Board Gender Diversity; According to the regression, the results showed that the coefficient value was -1.86 and the p-value was $0.019 < 0.05$. Consequently, it denoted that the board gender diversity was negatively impacted on FP ($\beta = -1.86$, $p < 0.05$). Gender diversity of the board in Indian listed commercial scheduled banks is not performing effectively in profit generations. It can be understood that most of the BGD board members do not have the relevant qualifications, experience and competencies, so they are not performing effectively in banking profit generation.

Audit committee size; According to the regression, the results showed that the coefficient value of 0.304 and probability value of $0.4852 > 0.05$. Because of this, it suggested that the ACS had an insignificant impact on FP. These findings are consistent with the research conducted by (Romano et al., 2012) and (Brick & Chidambaran, 2010); there is no meaningful connection between the size of the audit committee and the financial performance. Nevertheless, the CG framework has yet to reach a determination with respect to the optimal size of the ACS. (Yermack, 1996) states that some others believe that the vast size of the AC could potentially slow down the process of decision-making and cause debates that could have been avoided. In addition, the audit committee should focus on efficacy rather than size and not consider committee size a factor in improving committee effectiveness.

Audit committee meetings; According to the regression, the results showed that the coefficient value of 0.001 and p-value of $0.998 > 0.05$. Thus, this suggests that ACM had an insignificant impact on FP of the banks. The results contradict those of other research that demonstrated a correlation between ACM and FP (Farooque et al., 2020). However, for example (Alqatamin, 2018) could not identify any correlation between the ACM and FP. One plausible hypothesis for the observed outcome is that the quantity of meetings does not have a direct influence on the efficacy of banks in mitigating the agency cost.

Risk Management Committee Size: According to the regression, the results indicated that the RMCS had a significantly impact on ROE. The results showed that the Coefficient value was -0.997, and the probability value was $0.055 < 0.10$. Thus, this suggests that RMCS had a significant and negatively effect on FP at the significance level of ($\beta = -0.997$, $p 0.10$). The results align with the research undertaken by (Sanda et al., 2011) and (A. Abdullah & Ismail, 2015); smaller board size improves decision-making efficiency by reducing communication distance among members, enhancing board efficiency. The finding indicated that a smaller size of the board is more effective in monitoring the FP of a bank's performance. At the same time, larger board sizes are more difficult to organise and may provide issues for communication and banking sector firms. The larger number of RMCS committee members may lead to a dearth of focus and diminished activity.

Risk Management Committee Meetings: The findings of the regression analysis suggest that the RMCM did not have any influence on the FP that was statistically significant. The findings indicate that the coefficient has a value of

-0.335 and a probability value has 0.602, which is higher than significance level of 0.05. Hence, the findings suggest that there exists a non-significant and negative correlation between the RMCM and the return on equity. In contrast to previous research in CG, the current findings indicate that a greater number of meetings is likely to result in superior performance (Odubuasi et al., 2022); (Lipton & Lorsch, 1992). In the meanwhile, (Menon & Williams, 1994) and (Saleh et al., 2007) argue that the number of meetings is not a reliable indicator of committee efficiency.

Fraud management committee size and Meetings; according to the findings of the regression analysis, the FMCS had a statistically insignificant impact on the ROE. The findings suggested that the coefficient has a value of -0.633 and a probability value of 0.199, which is larger than the 0.05 significance threshold. As a result, it pointed to the fact that the fraud management committee size had an insignificant and negative relationship with FP. The fraud management committee meetings had a significant impact on financial performance. The results showed that the value of the t-test revealed an estimated coefficient value of 1.014 and a probability value of $0.27 > 0.05$. Therefore, it stated that fraud management committee meetings had a positive relationship with financial performance.

In table 4.11, the regression results for the fixed model are shown. The fixed effects (within) model revealed that CG components explained 10.51% variation of financial performance for overall R-squared. While R-Squared within showed that 39.37% of financial performance varies is explained by corporate governance factors based only on the variation within each bank.

While R-Squared showed that 23.05% of financial performance varies is explained by CG factors. The F-value obtained for the model is 12.34, with a corresponding Probability value of 0.000. Given that the Probability value is less than the commonly accepted significance level of 0.05, we may conclude that the model is statistically significant. So, hypothesis H2 is accepted. The findings are consistent with the study conducted by (Al-Manaseer et al., 2012);(Haan & Vlahu, 2016); (Almoneef & Samontaray, 2019); (Warrad & Khaddam, 2020); (Bezawada & Adavelli, 2020) and (Owiredu & Kwakye, 2020), which also found that a favourable and statistically significant correlation exists between CG and FP. The study also shows that CG and FP have a positive relationship, indicating that a BP with good CG policies and practices has greater transparency.

5.2. Discussion of Objective 2

Objective 2: To find the IC affects the FP of the commercial schedule banks in India. Hypothesis 2, associated with this objective, was described as follows.

This finding presents a discrepancy with the outcomes of certain prior investigations, such as (Ze'ghal & Maalou, 2010); (Clarke et al., 2011); (Alipour, 2012); (Pal & Soriya, 2012); and (Khaldoon Ahmad Al et al., 2014). Those studies assure that the improvement in the firm's FP is related to the efficiency of Intellectual and Physical Capital. Also, they assured that achieving a distinguished and continuous FP depends on the ability of those resources to create a value-added and to affect the FP positively.

The regression analysis conducted to examine the correlation between VAIC and FP, specifically ROE, revealed a noteworthy positive impact ($\beta = 1.478$, P

< 0.05) of VAIC on FP among Banks, with a statistical significance level of 5%. It points to the fact that the independent variable VAIC has support for the FP commercial scheduled banks in India. This assertion is consistent with existing scholarly research that provides evidence for the notion that intellectual capital (IC) has a beneficial influence on FP (Goh, 2005); (Barathi Kamath, 2007); (Rehman et al., 2012); (Al-Musali & Ismail, 2014); (Ousama & Fatima, 2015); (Ahmed & Che-Ahmad, 2016); (Nawaz & Haniffa, 2017); and (Ousama et al., 2020b). Hence, H3 is supported. According to Chen et al. (2005), investors tend to evaluate a firm's value based on its utilisation of intellectual capital, which in turn leads to improved firm performance.

5.3. Discussion of Objective 2.1

Objective 2.1: To find the IC factors that influence the FP of the commercial schedule banks in India. The hypothesis associated with this objective consisted of H2.1a, H2.1b and H2.1c, which were described as follows.

According to the regression, the results showed that the coefficient value observed in the analysis was -0.032, indicating a negative relationship between the variables. The corresponding p-value was found to be 0.970, which above the predetermined significance threshold of 0.05. Thus, this suggests that HCE had a negatively insignificant effect on FP. It could be concluded that HCE was not supported by FP. The findings indicate that the utilization of HCE has not yielded a positively effect on the FP of scheduled commercial banks in India. The present study's results are incongruous with prior research on CG, indicating that the utilization of human capital can enhance products and

processes (Berg et al., 1969). Furthermore, according to Becker et al. (2001), there is a claim that enhancing staff capabilities via increased investment may result in higher financial performance. Prior research has identified a negligible correlation between the efficacy of human capital and a company's overall efficiency (Firer & Williams, 2003); (Puntillo, 2009); (Mohammed & Irbo, 2018); (Selvam et al., 2019); (Albertini & Berger-Remy, 2019); and (Su Lian Silvy & Rosmita Rasyid, 2020).

The regression result presented in the table indicates that the coefficient for SCE is statistically significant at a 5% level of significance ($\beta = 156.870$, $P < 0.05$). Nevertheless, the coefficient has a positive sign, indicating a statistically significant influence on FP. Hence, the hypothesis is accepted. The Resource-Based view Theory (Wernerfelt, 1984) suggests companies can improve competitiveness and financial performance by owning, controlling, and using strategic assets. Structural capital efficiency (SCE) is an infrastructure that increases employee productivity, “including databases, organizational charts, process manuals, strategies, and routines”. This value-added infrastructure reduces operational costs and enhances the company's overall value (Baroroh, 2013). Profits and ROE will rise with low operating costs. The empirical study supports the premise that SCE improves FP (Tefera, 2018); (Rehman et al., 2012); (Razafindrambinina & Anggreni, 2011); (Ercan et al., 2003); and (Adegbayibi, 2021). The SCE improves financial performance, demonstrating structure capital efficiency.

According to the regression, the findings of the study indicate that the CEE has a statistically significant impact on the Return on Equity (ROE). The findings

indicate that the coefficient value was -202.966, and the p-value was 0.023, which falls below the predetermined significance threshold of 0.05. Hence, the results suggested that CEE had a significantly and negative connection with ROE. In line with this study, (Ercan et al., 2003); (Zéghal & Maaloul, 2010); and (Forte et al., 2019) stated that capital-employed efficiency has a significant negative impact on FP. The presence of a negative sign implies that the physical and financial assets of a firm may result in additional costs, such as “electricity expenses for operating machines”, that are included in the capital employed. Hence, it can be inferred that the influence of CEE on the FP of banks in India is negatively significant.

5.4. Discussion of Objective 3

To investigate the CG factors influencing the ICP of commercial scheduled banks in India.

The findings of the investigation suggest that CEO-Duality exerted a favorable and statistically significant influence on the ICP. Therefore, the hypothesis has been accepted, leading to the conclusion that there is evidence supporting the notion of a positive correlation between CEO duality and ICP. When the duties of chairman and chief executive officer (CEO) are not separated, these results suggest banks' intellectual capital performance and prudent investments in banks. The results are also consistent with some of earlier studies (Appuhami & Bhuyan, 2015) and (Gangi et al., 2019) which found that CEO Duality is a positive relationship effect on ICP. The findings suggest that individuals with a significant concentration of power will likely generate value for the organisation by efficiently using intellectual capital.

The results of the regression analysis suggest that the coefficient associated with the total number of directors, also known as Board Size, exhibits statistical significance at a 1% level. Nevertheless, the positive coefficient implies a robust and statistically significant influence on ICP. Therefore, the hypothesis has been accepted.

This discovery suggests that the increased size of the board has a greater impact on overall bank efficiency. This implies that a greater board size results in an increased potential for the exchange of ideas and expertise among members of the board. These findings are also in line with a number of previous studies (Meyer & Wet, 2013); (Appuhami & Bhuyan, 2015); (Joshi et al., 2013); (Kiel & Nicholson, 2003); (Henry, 2008); (Mukyala et al., 2021); and (Duc & Phan, 2013). For example, (Kiel & Nicholson, 2003), larger boards have a statistically significant association between board size and ICP. This facilitates the enhancement of transparency in the process of decision-making, hence leading to improved performance. However, larger boards seem to induce better performance in the case of ICP.

The result of the regression analysis table shows that the Frequency board meeting had a positive impact at the 1% level of a statistically noteworthy association between the FBM and ICP, which means the Hypothesis H1c is accepted ($\beta = 0.178$, $P < 0.01$). The results are consistent with research conducted by (Vafeas, 2003), which also found that the frequency of board meetings has a positive and significant impact on ICP. But it is different with (Fitriani & Ayu, 2012), who find that the FBM has no effect on ICP.

These findings also suggest that a high frequency of board meetings always ensures that intellectual capital performance also increases because it depends on the effectiveness of board meetings.

The findings derived from the regression analysis indicate that the level of board independence exerted a statistically significant influence on the ICP. Which means that hypothesis is accepted. The results of this study are in line with those of (Abidin et al., 2009); (Buallay & Hamdan, 2019b); (Pathan et al., 2007); (Filatotchev et al., 2005); (Mahmudi & Nurhayati, 2014), and (Gangi et al., 2019), which also found that there is a positive relationship between board independence and intellectual capital performance.

Board independence is expected to be a key factor in improving ICP. The board of commissioners is expected to increase the independence of the regulatory process for bank operations to formulate policies or new ideas about the importance of intellectual capital management in Indian banking firms. Because an independent board is a part of the governance structure that is not associated with business relationships, family relationships and intended affiliations at the organisation, it is expected to have the professionalism to freely express and mitigate opinions without bias. The study suggested that firms with stronger Board independence (boards of directors) tend to be more effective at managing their intangible assets, such as IC.

The findings of the regression indicate that the gender diversity of the board had a significant and negatively effect on ICP. Significance of board gender diversity (coef = -0.322, Prob < 0.05) this indicates that the BGD hypothesis is accepted.

The results of the study align with the research carried out by Chiucchi et al. (2018), which shows that greater BGD has a negative effect on the ICP of Italian SMEs. However, this finding contradicts the findings by (Oktaviana & Doddy Setiawan, 2022), which demonstrate the existence of a positive effect of BGD on ICP.

Focusing on the impact of Board Gender Diversity on Intellectual capital performance, it can be seen that there is a negatively significant impact on BGD on ICP of selected commercial scheduled banks in India. The result of the findings implies that Board Gender Diversity reduces Intellectual capital performance, but not significantly. These observations indicate a lack of adequate representation of women on the boards of directors of banks in India. The inadequate representation of women on boards of banks undermines the potential of gender diversity to make a significant contribution to the performance of the institution. In addition to their underrepresentation on the board of directors, women do not receive equal leadership responsibilities within the organisation. This is due to the fact that their presence on the board is more of a formality than anything else and serves primarily as a rubber stamp to create the impression that female directors are present. Additionally, the unfavorable effect can be explained by the fact that the selection of women for positions on corporate boards of directors is not made, taking into account the proficiency, abilities, efficiency, knowledge, and diligence that can drive female directors to accelerate bank performance.

The findings derived from the regression analysis indicate that the audit committee size significance level is at (coef = -0.057, Prob > 0.05), this indicates

that the ACS hypothesis is rejected. This study's finding is consistent with (Balasundaram, 2019), which also found that the AC size has an insignificant impact on ICP.

Additionally, no significant correlation has been observed between the size of the anterior cranial fossa and intracranial pressure. The size of an AC member does not necessarily correlate with an improved ICP. According to (Li et al., 2012), it is commonly believed that the inclusion of intellectual capital (IC) issues in long-term corporate policy decisions can be more effectively analysed with a larger number of members on the committee. On the other hand, one school of thought maintains that a smaller AC can reach choices more quickly and effectively. This might make the ICP better. The conclusion is that the AC size has no significant influence on ICP in the content of Indian commercial scheduled banks.

According to the results of the regression analysis, it seems that ACM had an effect that was both beneficial and considered statistically significant on ICP. The significance of audit committee meetings is (coef = 0.093, Prob < 0.05), which means that the AC meetings hypothesis is accepted. These results of the study are in line with previous research carried out by (Li et al., 2012), which also found that there is a positively and significant association with AC meetings and ICP.

This finding confirms the theory that AC members are more likely to fulfil the statutory responsibilities assigned by the committee when they meet regularly. Attendance of the chair at every committee meeting is crucial. Attending ACM with good knowledge of AC chair meetings and AC practices not only

demonstrates independence but also enhances the ability to make or influence strategic IC decisions.

The regression analysis table results that the RMC size has an insignificant on ICP. The RMC Size significance level at ($\beta = -0.030$, $P > 0.05$) means the hypothesis is rejected. The findings suggest no observed significant relationship between the RMC Size and ICP. The results said that a larger number of RMC Members does not lead to better performance on ICP.

The RMC is a board of commissioners that provides assistance in the performance of supervisory responsibilities for corporate risk control (Halen et al., 2017). The CG code is one of the boards of director committees. The acquisition of one is recommended but not required for businesses. Controlling risks is the single most important factor in determining the success of a business (Akindele, 2012), and (Edogbanya & Kamardin, 2015).

The regression analysis table displays the outcome the RMCM had an insignificant impact on ICP (coef = 0.016, Prob > 0.05) means the RMC Meetings hypothesis is rejected.

The regression analysis table displays the outcome the FMC Size had a negative effect on ICP ($\beta = -0.154$, $P < 0.05$) means the hypothesis is rejected.

It further shows that FMC size has a negative relationship with ICP. Senior members are generally expected to bring with them different experiences and expertise. This further promotes transparency in decision-making and better ICP. However, in the case of IC, larger FMC members appear to prevent the inclusion of improved performance. This may be due to the need for more

awareness among many FMC board members about measuring and reporting banks' IC. Therefore, smaller FMC boards can reach decisions related to IC policy more efficiently. A larger FMC board size may focus on FP.

The outcome of the regression analysis table indicates FMC Meetings (coef = 0.170, Prob < 0.05) this indicate that the hypothesis is accepted. These findings also suggest that a high FMC Meeting always ensures that intellectual capital performance increases because it depends on the effectiveness of FMC Meetings. Attending FMC meetings with good knowledge and practices demonstrates independence and enhances the ability to make strategic IC decisions.

6. CHAPTER – 6

CONCLUSION AND RECOMMENDATIONS

“This chapter was designed to discuss the conclusions drawn from the empirical results, the implications of the study, the Limitations and scope for future research study”.

6.1. Impact of Corporate Governance on Financial Performance

The present investigation aims to examine the Impact of CG and IC on FP: A research study of Commercial Banks in India in the time period from 2009-10 to 2019-20. The study has examined corporate governance, namely; CEO Duality, IND, BSZ, FBM, BGD, ACS, ACM, RMCS, RMCM, FMCS and FMCM. In this study, “return on equity (ROE) is used as a financial performance measures and VAIC is used as an intellectual capital measures”.

The study's findings demonstrate that the correlation between CG and BP is relatively insignificant. This can be attributed to the lack of thorough compliance with guidelines and regulations. The study has revealed that the FBM has a negatively and significant impact on FP., which indicates that a small number of board meetings increase the performance of the scheduled commercial banks in India and vice-versa. Board independence, on the other hand, has a positively influence on performance measures which explains why the number of independent directors should be more in the board composition. Moreover, it was found that board gender diversity and risk management committee size have a negative influence on the financial performance of the

selected commercial banks. Furthermore, Board size, CEO duality, and fraud management committee meetings have a significant positive impact on the financial performance of the banks. Audit committee size and meetings, risk management committee meetings, and fraud management committee size have insignificant influence on the bank's performance of the selected commercial scheduled banks listed on the NSE in India. Based on the results obtained from the investigation, there is a positive correlation between CG and BP. It indicates that firms with excellent CG policies and practices have higher levels of transparency and disclosure when compared to banks with bad corporate governance practices.

The results of the research have significant relevance for financial institutions and regulatory bodies. The aforementioned financial performance management ensures that everyone's best interests are considered. This will ensure that banks are on the right track and continue to achieve long-term corporate success and economic growth. This increases the confidence of the interested parties, and as a result, the banks can follow the rules and regulations strongly and the goals, vision and objectives efficiently and effectively. It also helps to influence ethical values and corporate social responsibility positively.

6.2. Impact of Intellectual Capital on Financial Performance

This study aims to examine the influence of IC on the FP of the selected commercial scheduled banks listed NSE in India for the time period from 2009-10 to 2019-20. The study has examined intellectual capital performance “(VAIC), namely, HCE, SCE, and CEE”. The study revealed that Overall, the evidence suggests that VAIC does have a statistically significant influence on

BP. These intangibles are not always captured in traditional financial statements but can have a meaningful impact on a bank's long-term success. By measuring these intangible assets, banks can gain insight into their competitive advantage and use it to make more informed decisions about future investments. Thus, banks should consider incorporating VAIC into their decision-making processes in order to better understand their competitive advantage and improve financial performance.

Human capital efficiency has an insignificant effect on FP. It is still important for banks to maximize the potential of their employees. Banks that are able to effectively utilise their human capital resources are more likely to be successful in the long run. This includes investing in training and development, providing competitive compensation and benefits, and nurturing a collaborative and innovative work environment. All of these initiatives can help to increase employee engagement and productivity, which can lead to improved financial performance.

Capital employed efficiency has a negatively significant influence on FP. The negative sign implies that the firm's physical assets and financial assets may generate additional expenses. For example, the expense of operating machines that are part of the capital employed is an example of this. As a result, the efficiency with which banks utilise their capital is not a significant factor in determining their financial performance in India.

Structural capital efficiency has a positively effect on the FP of the commercial banks in India. This is because a bank can operate more efficiently when it has efficient systems and processes in place, resulting in lower costs and higher

profits. Structural capital efficiency also helps to reduce the risk associated with operations as well as improve customer service levels. As such, having an effective operational structure can help banks achieve better profitability.

6.3. Impact of Corporate Governance on Intellectual Capital Performance

The present study aims to examine the impact of CG on the ICP of the selected commercial scheduled banks listed on the NSE in India for the time period from 2009-10 to 2019-20. The study has examined corporate governance, namely; CEO Duality, BIND, BSZ, FBM, BGD, ACS, ACM, RMCS, RMCM, FMCS, and FMCM.

The result of the research shows that CG factors impact on the intellectual capital performance of the scheduled commercial banks in India. The study revealed that the effect of CEO duality on ICP is significant. Intellectual capital, which includes knowledge, skills, and experience within an organisation, can be a major source of competitive advantage. A CEO with both leadership and management skills will be better able to recognise the value of intellectual capital and ensure that it is leveraged for maximum benefit. They will also have the ability to motivate employees to use their knowledge in innovative ways that create value for the company. By leveraging this type of intangible asset effectively, organisations are more likely to achieve success in terms of profitability and market position over time.

The size of the board is usually an important factor in determining the performance of a company, and this applies to banks as well. Generally speaking, larger boards tend to be more effective at providing oversight and

strategic guidance due to their greater diversity of perspectives. This can help ensure that decisions are made with a wide range of viewpoints taken into account. Additionally, larger boards may also have access to more resources for research and analysis, which can lead to better decision-making. However, it's also important to note that there is no definitive answer when it comes to the ideal size for a board in terms of its impact on ICP in the banking sector. Different organisations have different needs and objectives, so what works best for one organisation may not work as well for another. Ultimately, the best size of a board will depend on the specific needs and goals of the organisation.

The frequency of board meetings can have a significant impact on the intellectual capital performance of the banking sector. Regular board meetings give executives and directors the opportunity to review strategies, discuss new initiatives, and develop plans for improving performance. By providing a forum for discussion and debate around key issues facing the sector, these meetings can help to ensure that decisions are based on sound judgement and evidence-based analysis. Additionally, they provide an opportunity for members to share their expertise in areas such as risk management or customer service, which may be beneficial when developing strategies or launching new products or services. Ultimately, regular board meetings can help to foster a culture of innovation within the banking sector by encouraging creative thinking from all involved parties.

The board independence of a banking institution has a significant impact on its intellectual capital performance. An independent board can provide oversight and governance to ensure that the bank is properly managed, making it more

likely for the bank to produce better results in terms of its intellectual capital performance. A well-run and effective board will help ensure that resources are allocated appropriately, strategies are implemented effectively, and risks are managed adequately. All these factors contribute to improved intellectual capital performance as they enable the bank to make sound decisions which result in higher returns on investments in knowledge assets such as research & development activities or innovative product designs. Furthermore, an independent board also provides greater transparency and accountability, which further helps enhance trust among stakeholders and customers, leading to increased customer loyalty over time, resulting in sustained growth of the banking sector's IC output.

BGD has a negatively influence on ICP in the banking sector. In general, however, studies have found that organisations with greater gender diversity have better financial performance. In addition, companies with more diverse leadership teams are often considered more innovative and creative, leading to better intellectual capital performance. Therefore, gender diversity needs to be paid special attention to the performance of intellectual capital in the banking sector.

The audit committee size does not influence the ICP of the Indian commercial banks. This is because the audit committee's role is to ensure that all financial reporting and internal control systems comply with applicable laws and regulations, as well as to review internal audits and assess the accuracy and completeness of financial records. The main focus of the Audit Committee is financial integrity and transparency. Although it is important, it does not directly

affect the ICP of the commercial banks in India. Therefore, ACS has little effect on the ICP of the banking sector.

Audit committee meetings can have a positive impact on intellectual capital performance in the banking sector. The primary benefit of ACM is the increased transparency and oversight of financial activities, which can help to prevent fraud and financial mismanagement. Financial transparency can lead to greater confidence in the sector and encourage investors to invest in it. Additionally, audit committee meetings can provide insights into the sector's intellectual capital performance, as well as identify areas for improvement. This can help to ensure that the sector is maximizing its intellectual capital and that resources are being allocated efficiently. Finally, audit committee meetings can often promote collaboration and communication between the various stakeholders in the banking sector, which can lead to better performance.

Risk management committee size does not impact the banking sector's intellectual capital performance because risk management focuses on identifying, assessing, and managing potential risks. It does not directly affect the knowledge, skills, experience and creativity of a bank's employees, all components of intellectual capital. A risk management committee can, however, indirectly impact intellectual capital performance by providing the resources and systems to help maximise efficiency.

Risk management committee Meetings do not directly impact the ICP of the banking sector because it focuses on mitigating the risk associated with financial activities. These meetings aim to identify access and manage potential risks that may arise from various banking activities, such as loans, investments or trading.

They also evaluate existing risk management procedures and policies to ensure they effectively manage such risks. While this helps protect banks from financial losses due to unforeseen events, it does not necessarily affect their ability to generate value through intellectual capital initiatives.

It further shows that FMC size has a negative relationship with ICP. Further promotes transparency in decision-making and better ICP. However, in the case of IC, larger FMC members appear to prevent the inclusion of improved performance. This may be due to the need for more awareness among many FMC board members about measuring and reporting banks' IC. Therefore, smaller FMC boards can reach decisions related to IC policy more efficiently. A larger FMC board size may focus on financial performance. The result of the regression analysis shows that FMC Meetings have a significant impact on ICP. A high FMC Meeting always ensures that intellectual capital performance increases because it depends on the effectiveness of FMC Meetings. Attending FMC meetings with good knowledge and practices demonstrates independence and enhances the ability to make strategic IC decisions.

Corporate governance is a critical factor in the performance of scheduled commercial banks in India. It sets the tone for how banks manage their operations and has a direct influence on their intellectual capital performance. Good corporate governance practices ensure that resources are used efficiently and effectively, leading to improved financial performance. Poor corporate governance can lead to inefficient use of resources and decreased profitability, as well as an increased risk of fraud or unethical behaviour.

Good corporate governance helps create an environment where intellectual capital is managed properly and utilized optimally. This includes ensuring that employees have access to quality training programmes; creating incentives for innovation; promoting knowledge sharing across teams; implementing effective communication strategies between management and staff; developing systems that recognise individual contributions; encouraging employee engagement; providing feedback and recognition; and ensuring equitable rewards for all stakeholders. These practices help to create an environment where intellectual capital is valued, appreciated, and utilized effectively.

In addition, good corporate governance can also help banks manage risk more effectively, which in turn can lead to improved performance of the bank's intellectual capital. This includes having systems in place that monitor compliance with regulations and industry standards, as well as developing internal controls to reduce operational risks. By reducing the operational risks associated with poor management of resources, banks are better able to utilise their intellectual capital efficiently and generate higher returns from it.

Finally, corporate governance plays a role in promoting ethical behaviour within the organisation. Good corporate governance encourages transparency in decision-making processes as well as accountability for individual actions. This helps to create a culture of trust and respect, which in turn can lead to improved performance of the bank's intellectual capital.

In conclusion, corporate governance is an important factor that impacts the intellectual capital performance of scheduled commercial banks in India. Good corporate governance practices help ensure that resources are used efficiently

and effectively, leading to improved financial performance and higher returns from the bank's intellectual capital.

6.4. Implications

- The findings of the study would help bank managers, regulators, legislators, and academicians. It would also help those in other financial sectors.
- The findings of this research would also enable standard setters and regulatory agencies in India to adjust the present corporate governance code to improve VAIC in Indian Banks.
- The regulators should also consider formulating banking sector-specific guidelines to develop the IC. This study will motivate legislators to make rules because Indian Banks depend on trained employees and technology to produce the necessary abilities in a competitive scenario.
- Then this will transform the supervisor's behaviour in understanding VAIC and taking the necessary steps to manage financial and intangible assets to increase efficiency and productivity.

6.5. Limitations and Future Study

This study has a few limitations, which highlight the need for further studies.

- The research was conducted on the impact of corporate governance on the intellectual capital performance of the Indian banking sector. However, the intellectual capital of Indian banks was also influenced by other corporate governance factors. Future studies should explore other corporate governance factors like nomination and compensation committees,

sustainable development committees, leadership development committees and public responsibility committees.

- We used secondary sources to gather the data, mainly the RBI Data Warehouse and IBS annual reports. Future studies can use primary data like surveys and interviews in order to get an in-depth understanding of factors affecting intellectual capital and financial performance.
- The study used the multiple regression method to investigate corporate governance's effect on intellectual capital and financial performance. Future studies may employ alternative estimating methods such as scope analysis.
- This research used the VAIC technique to measure intellectual capital, but this method is a difficult one. Future research may employ a different method (Balanced Scorecard) to accurately quantify the intellectual capital of banks.

7. Reference

- 1) Abdullah, D. F., & Sofian, S. (2012). The Relationship between Intellectual Capital and Corporate Performance. *Procedia - Social and Behavioral Sciences*, 40, 537–541.
<https://doi.org/10.1016/j.sbspro.2012.03.227>
- 2) Abhayawansa, S., & Guthrie, J. (2014). Importance of Intellectual Capital Information: A Study of Australian Analyst Reports: Importance of Intellectual Capital Information. *Australian Accounting Review*, 24(1), 66–83. <https://doi.org/10.1111/auar.12012>
- 3) Achim, M.-V., Borlea, S.-N., & Mare, C. (2015). CORPORATE GOVERNANCE AND BUSINESS PERFORMANCE: EVIDENCE FOR THE ROMANIAN ECONOMY. *Journal of Business Economics and Management*, 17(3), 458–474.
<https://doi.org/10.3846/16111699.2013.834841>
- 4) Agnihotri, A., & Gupta. (2019). *Relationship of Corporate Governance and Efficiency of Selected Public and Private Sector Banks in India*. 3(1), 109–117. [https://doi.org/10.21272/bel.3\(1\).109-117.2019](https://doi.org/10.21272/bel.3(1).109-117.2019).
- 5) Ajanthan, A, S. Balaputhiran, & B. Nimalathashan. (2013). Corporate Governance and Banking Performance: A Comparative Study between Private and State Banking Sector in Sri Lanka. *European Journal of Business and Management*, 5(20), 92–100.
- 6) Akinleye, G. T., & Fajuyagbe, B. S. (2019). Corporate governance and financial performance: An empirical analysis of selected multinational

- firms in Nigeria. *Problems and Perspectives in Management*, 17(1), 11.
- 7) Alizadeh, R., Nabavi Chashmi, S. A., & Jahani Bahnamiri, A. (2014). Corporate governance and intellectual capital. *Management Science Letters*, 4(1), 181–186. <https://doi.org/10.5267/j.msl.2013.11.014>
 - 8) Al-Musali, M. A. K., & Ismail, K. N. I. K. (2014). Intellectual Capital and its Effect on Financial Performance of Banks: Evidence from Saudi Arabia. *Procedia - Social and Behavioral Sciences*, 164, 201–207. <https://doi.org/10.1016/j.sbspro.2014.11.068>
 - 9) Al-Musalli, M. A. K., & Ismail, K. N. I. K. (2012). Intellectual Capital Performance and Board Characteristics of GCC Banks. *Procedia Economics and Finance*, 2, 219–226. [https://doi.org/10.1016/s2212-5671\(12\)00082-2](https://doi.org/10.1016/s2212-5671(12)00082-2)
 - 10) Almutairi, A. R., & Quttainah, M. A. (2017). Corporate governance: Evidence from Islamic banks. *Social Responsibility Journal*, 13(3), 601–624. <https://doi.org/10.1108/SRJ-05-2016-0061>
 - 11) Annie Brooking. (1996). *Intellectual Capital: Core Assets for the Third Millennium*.
 - 12) Appuhami, R., & Bhuyan, M. (2015). Examining the influence of corporate governance on intellectual capital efficiency evidence from top service firms in Australia. *Managerial Auditing Journal*, 30(4–5), 347–372. <https://doi.org/10.1108/MAJ-04-2014-1022>
 - 13) Arifin, J. (2016). Corporate Governance and Intellectual Capital on Financial Performance of Bank Sector Companies: Indonesia Stock

- Exchange 2008-2012. *Journal of Administrative Sciences and Policy Studies*, 4(1). <https://doi.org/10.15640/jasps.v4n1a4>
- 14) Armitage, S., Hou, W., Sarkar, S., & Talaulicar, T. (2017). Corporate governance challenges in emerging economies. *Corporate Governance: An International Review*, 25(3), 148–154. <https://doi.org/10.1111/corg.12209>
- 15) Ayadi, M. A., Ayadi, N., & Trabelsi, S. (2019). Corporate governance, European bank performance and the financial crisis. *Managerial Auditing Journal*, 34(3), 338–371. <https://doi.org/10.1108/MAJ-11-2017-1704>
- 16) Bajagai, R. K., Keshari, Bhetwal, P., Sah, R. S., & Jha, R. N. (2019). Impact of ownership structure and corporate governance on capital structure of Nepalese listed companies. *Business Governance and Society: Analyzing Shifts, Conflicts, and Challenges*, 399–491.
- 17) Bala, A. J., Raja, A. S., & Dandago, K. I. (2019). Mediating Effect of Intellectual Capital on Corporate Governance and Performance of Conglomerates in Nigeria. *SEISENSE Journal of Management*, 2(3), 16–29. <https://doi.org/10.33215/sjom.v2i3.109>
- 18) Baldini, M. A., & Liberatore, G. (2016). Corporate governance and intellectual capital disclosure. An empirical analysis of the Italian listed companies. *Corporate Ownership and Control*, 13(2), 187–201.
- 19) Barathi Kamath, G. (2007). The intellectual capital performance of the Indian banking sector. *Journal of Intellectual Capital*, 8(1), 96–123. <https://doi.org/10.1108/14691930710715088>

- 20) Basyith, A. (2016). Corporate Governance, Intellectual Capital and Firm Performance. *Research in Applied Economics*, 8(1), 17.
<https://doi.org/10.5296/rae.v8i1.8675>
- 21) Belal, A. R., Mazumder, M. M. M., & Ali, M. (2019). Intellectual capital reporting practices in an Islamic bank: A case study: XXXX. *Business Ethics: A European Review*, 28(2), 206–220.
<https://doi.org/10.1111/beer.12211>
- 22) Berezinets, I., Garanina, T., & Ilina, Y. (2016). Intellectual capital of a board of directors and its elements: Introduction to the concepts. *Journal of Intellectual Capital*, 17(4), 632–653.
<https://doi.org/10.1108/JIC-01-2016-0003>
- 23) Bharathi Kamath, G. (2019). Board Characteristics and Intellectual Capital Performance: A Comparison of Service vs. Manufacturing Firms in India. *Scholedge International Journal of Business Policy & Governance ISSN 2394-3351*, 6(1), 1.
<https://doi.org/10.19085/sijbpg060101>
- 24) Boekestein, Bram. (2009). Acquisitions reveal the hidden intellectual capital of pharmaceutical companies. *Journal of Intellectual Capital*.
- 25) Bontis, N. (1998). Intellectual capital: An exploratory study that develops measures and models. *Management Decision*, 36(2), 63–76.
- 26) Brahmaiah, B. & Ranajee. (2018). Factors Influencing Profitability of Banks in India. *Theoretical Economics Letters*, 08(14), 3046–3061.
<https://doi.org/10.4236/tel.2018.814189>
- 27) Branko Matić & Nikola Papac. (2014). Measuring the quality of corporate governance in the banking sector of Bosnia and

- Herzegovina. *Economic Research-Ekonomska Istraživanja*, 27(1), 784–798. <https://doi.org/10.1080/1331677X.2014.974338>
- 28) Braune, E., Sahut, J. M., & Teulon, F. (2020). Intangible capital, governance and financial performance. *Technological Forecasting and Social Change*, 154. <https://doi.org/10.1016/j.techfore.2020.119934>
- 29) Brinker & Barry J. (2000). *Guide to Cost Management*.
- 30) Brooks, C. (2008). *RATS Handbook to accompany introductory econometrics for finance*. Cambridge Books.
- 31) Brown, I., Steen, A., & Foreman, J. (2009). Risk Management in Corporate Governance: A Review and Proposal. *Corporate Governance: An International Review*, 17(5), 546–558. <https://doi.org/10.1111/j.1467-8683.2009.00763.x>
- 32) Buallay, A. (2019). Intellectual capital and performance of Islamic and conventional banking: Empirical evidence from Gulf Cooperative Council countries. *Journal of Management Development*, 38(7), 518–537. <https://doi.org/10.1108/JMD-01-2019-0020>
- 33) Buallay, A., & Hamdan, A. (2019). The relationship between corporate governance and intellectual capital: The moderating role of firm size. *International Journal of Law and Management*, 61(2), 384–401. <https://doi.org/10.1108/IJLMA-02-2018-0033>
- 34) Budiarmo, N. S. (2019). INTELLECTUAL CAPITAL IN PUBLIC SECTOR. *ACCOUNTABILITY*, 8(1), 42. <https://doi.org/10.32400/ja.23359.8.1.2019.42-50>
- 35) Bukh, P. N. (2003). *The relevance of intellectual capital disclosure: A paradox?* 16(1), 49–56. <https://doi.org/10.1108/09513570310464273>

- 36) Carpenter, M. A., & Westphal, J. D. (2001). The strategic context of external network ties: Examining the impact of director appointments on board involvement in strategic decision making. *Academy of Management Journal*.
- 37) Celenza, D., & Rossi, F. (2014). Intellectual capital and performance of listed companies: Empirical evidence from Italy. *Measuring Business Excellence*, 18(1), 22–35. <https://doi.org/10.1108/MBE-10-2013-0054>
- 38) Cerbioni, F., & Parbonetti, A. (2007). Exploring the Effects of Corporate Governance on Intellectual Capital Disclosure: An Analysis of European Biotechnology Companies. *European Accounting Review*, 16(4), 791–826. <https://doi.org/10.1080/09638180701707011>
- 39) Chan, K. H. (2009). Impact of intellectual capital on organisational performance: An empirical study of companies in the Hang Seng Index (Part 1). *The Learning Organization*, 16(1), 4–21. <https://doi.org/10.1108/09696470910927641>
- 40) Chen, J., Zhu, Z., & Yuan Xie, H. (2004). Measuring intellectual capital: A new model and empirical study. *Journal of Intellectual Capital*, 5(1), 195–212. <https://doi.org/10.1108/14691930410513003>
- 41) Christiane Hellstern. (2020). Structural banking reforms and their implications for banks' corporate governance. *Journal of Financial Regulation and Compliance*, 28(4), 515–525.
- 42) Ciftci, I., Tatoglu, E., Wood, G., Demirbag, M., & Zaim, S. (2019). Corporate governance and firm performance in emerging markets:

- Evidence from Turkey. *International Business Review*, 28(1), 90–103.
<https://doi.org/10.1016/j.ibusrev.2018.08.004>
- 43) CIMA. (2001). *CIMA Annual Review 2001*.
- 44) Donaldson, T., & Preston, L. E. (1995). The stakeholder theory of the corporation: Concepts, evidence, and implications. *Academy of Management Review*, 20(1), 65–91.
- 45) Drucker, P. F. (1993). *Post-Capitalist Society* > Harper Collins.
- 46) Duru, A., Iyengar, R. J., & Zampelli, E. M. (2016). The dynamic relationship between CEO duality and firm performance: The moderating role of board independence. *Journal of Business Research*, 69(10), 4269–4277.
- 47) Eissa A, A., Faozi A, A., & Anwar Ahmad. (2019). Impact of Corporate Governance Mechanisms on Financial Performance of Hotel Companies: Empirical Evidence from India. *African Journal of Hospitality, Tourism and Leisure*, 8(2).
- 48) El-Bannany, M. (2008). A study of determinants of intellectual capital performance in banks: The UK case. *Journal of Intellectual Capital*, 9(3), 487–498. <https://doi.org/10.1108/14691930810892045>
- 49) Faisal, M., Hassan, M., Shahid, M. S., Rizwan, M., & Qureshi, Z. A. (2016). IMPACT OF CORPORATE GOVERNANCE ON INTELLECTUAL CAPITAL EFFICIENCY: EVIDENCE FROM KSE LISTED COMMERCIAL BANKS. In *SECTION B Sci.Int.(Lahore)* (Vol. 28, Issue 4, pp. 353–361).
- 50) Fama, E. F., & Jensen, M. C. (1983). Separation of ownership and control. *The Journal of Law and Economics*, 26(2), 301–325.

- 51) Felício, J. A., Rodrigues, R., Grove, H., & Greiner, A. (2018). The influence of corporate governance on bank risk during a financial crisis. *Economic Research-Ekonomska Istraživanja*, 31(1), 1078–1090. <https://doi.org/10.1080/1331677X.2018.1436457>
- 52) Firer, S., & Williams, S. M. (2003). Intellectual capital and traditional measures of corporate performance. *Journal of Intellectual Capital*, 4(3), 348–360. <https://doi.org/10.1108/14691930310487806>
- 53) Ghosh, S. (2006). Do board characteristics affect corporate performance? Firm-level evidence for India. *Applied Economics Letters*, 13(7), 435–443. <https://doi.org/10.1080/13504850500398617>
- 54) Greene. (2003). *Econometric analysis*. Pearson Education India.
- 55) Gujarati, D. N., & Porter, D. C. (2010). *Essentials of Econometrics*.
- 56) Gul, F. A., Srinidhi, B., & Ng, A. C. (2011). Does board gender diversity improve the informativeness of stock prices? *Journal of Accounting and Economics*, 51(3), 314–338. <https://doi.org/10.1016/j.jacceco.2011.01.005>
- 57) Hatane, S. E., Djajadi, A. T., & Tarigan, J. (2017). *The impact of corporate governance on intellectual capital and firm value: Evidence from Indonesia and Malaysia consumer goods*.
- 58) Hausman, J. A. (1978). Specification tests in econometrics. *Econometrica: Journal of the Econometric Society*, 1251–1271.
- 59) Healy, P. M., & Palepu, K. G. (2001). *Information asymmetry, corporate disclosure, and the capital markets: A review of the empirical disclosure literature*\$.

- 60) Hossain, M., & Reaz, M. (2007). The determinants and characteristics of voluntary disclosure by Indian banking companies. *Corporate Social Responsibility and Environmental Management*, 14(5), 274–288. <https://doi.org/10.1002/csr.154>
- 61) Inkinen, H. (2015). Review of empirical research on intellectual capital and firm performance. *Journal of Intellectual Capital*, 16(3), 518–565. <https://doi.org/10.1108/JIC-01-2015-0002>
- 62) Jackling, B., & Johl, S. (2009). Board structure and firm performance: Evidence from India's top companies. *Corporate Governance: An International Review*, 4, 492–509. <https://doi.org/10.1111/j.1467-8683.2009.00760.x>
- 63) Janošević, S., Dženopoljac, V., & Bontis, N. (2013). Intellectual capital and financial performance in Serbia. *Knowledge and Process Management*, 20(1), 1–11. <https://doi.org/10.1002/kpm.1404>
- 64) Jarque, C. M., & Bera, A. K. (1980). Efficient tests for normality, homoscedasticity and serial independence of regression residuals. *Economics Letters*, 6(3), 255–259. [https://doi.org/10.1016/0165-1765\(80\)90024-5](https://doi.org/10.1016/0165-1765(80)90024-5)
- 65) Jensen, M. C., & Meckling, W. H. (1976). THEORY OF THE FIRM: MANAGERIAL BEHAVIOR, AGENCY COSTS AND OWNERSHIP STRUCTURE. In *Journal of Financial Economics* (Vol. 3, pp. 305–360). Q North-Holland Publishing Company.
- 66) Jensen, M., & Meckling, W. (1976). Theory of the firm: Managerial behaviour, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305–360.

- 67) Jing, L., Pike, R., & Haniffa, R. (2008). Intellectual capital disclosure and corporate governance structure in UK firms. *Accounting and Business Research*, 38(2), 137–159.
- 68) Johnson, J. L., Daily, C. M., & Ellstrand, A. E. (1996). Boards of directors: A review and research agenda. *Journal of Management*, 22(3), 409–438.
- 69) Joshi, M., Cahill, D., & Sidhu, J. (2010). Intellectual capital performance in the banking sector: An assessment of Australian owned banks. *Journal of Human Resource Costing & Accounting*, 14(2), 151–170. <https://doi.org/10.1108/14013381011062649>
- 70) Joshi, M., Cahill, D., Sidhu, J., & Kansal, M. (2013). Intellectual capital and financial performance: An evaluation of the Australian financial sector. *Journal of Intellectual Capital*, 14(2), 264–285. <https://doi.org/10.1108/14691931311323887>
- 71) Kalpana Unadkat, Partner, & Pranay Bagdi. (2017). *Top Ten Issues in Corporate Governance Practices in India*. <https://www.acc.com/resource-library/top-ten-issues-corporate-governance-practices-india>
- 72) Kamath, B. (2019). Impact of corporate governance characteristics on intellectual capital performance of firms in India. *International Journal of Disclosure and Governance*, 16(1), 20–36. <https://doi.org/10.1057/s41310-019-00054-0>
- 73) Kandukuri, R. L., Memdani, L., & Raja Babu, P. (2015). Effect of Corporate Governance on Firm Performance – A Study of Selected Indian Listed Companies. In J. W. Kensinger (Ed.), *Research in*

- Finance* (Vol. 31, pp. 47–64). Emerald Group Publishing Limited.
<https://doi.org/10.1108/S0196-382120150000031010>
- 74) Karl Erik Sveiby. (1997). *The New Organizational Wealth: Managing and Measuring Knowledge-Based Assets*.
- 75) Kaur, P. (2017). *Role of Corporate Governance in Indian Banking Sector*. 5(1).
- 76) Khanchel El Mehdi, I. (2007). Empirical Evidence on Corporate Governance and Corporate Performance in Tunisia: EMPIRICAL EVIDENCE ON CORPORATE GOVERNANCE AND CORPORATE PERFORMANCE IN TUNISIA. *Corporate Governance: An International Review*, 15(6), 1429–1441.
<https://doi.org/10.1111/j.1467-8683.2007.00655.x>
- 77) Kujansivu, P., & Lönnqvist, A. (2006). Investigating the value and efficiency of intellectual capital. *Journal of Intellectual Capital*, 8(2), 272–287. <https://doi.org/10.1108/14691930710742844>
- 78) Kumar, P., & Zattoni, A. (2018). Corporate governance, firm performance, and managerial incentives. *Corporate Governance: An International Review*, 26(4), 236–237.
<https://doi.org/10.1111/corg.12253>
- 79) Lee, L. L., & Guthrie, J. (2010). Visualising and measuring intellectual capital in capital markets: A research method. *Journal of Intellectual Capital*, 11(1), 4–22. <https://doi.org/10.1108/14691931011013307>
- 80) Liebowitz, J., & Suen, C. Y. (2000). Developing knowledge management metrics for measuring intellectual capital. *Journal of*

Intellectual Capital, 1(1), 54–67.

<https://doi.org/10.1108/14691930010324160>

- 81) Maditinos, D., Chatzoudes, D., Tsairidis, C., & Theriou, G. (2011).

The impact of intellectual capital on firms' market value and financial performance. *Journal of Intellectual Capital*, 12(1), 132–151.

<https://doi.org/10.1108/14691931111097944>

- 82) Mahmudi, B., & Nurhayati, E. (2015). The Influence of Board

Governance Characteristics on Intellectual Capital Performance

(Empirical Study on Listed Banks in BEI 2008-2012). *Review of*

Integrative Business and Economics Research, 4(1), 417.

- 83) Makki, M. A. M., & Lodhi, S. A. (2014). Impact of Corporate

Governance on Intellectual Capital Efficiency and Financial

Performance. In *Soc Sci Pakistan Journal of Commerce and Social*

Sciences (Vol. 8, Issue 2, pp. 305–330).

- 84) Maldajian, C., & Khoury, R. E. (2014). Determinants of the Dividend

Policy: An Empirical Study on the Lebanese Listed Banks.

International Journal of Economics and Finance, 6(4), 240-256.

<https://doi.org/10.5539/ijef.v6n4p240>

- 85) Malhotra, M., & Thenmozhi, M. (2016). Linkages among Corporate

Governance, Intellectual Capital Efficiency and Firm Performance: An

Empirical analysis from Emerging Market. *International Conference*

on Financial Market and Corporate Finance (ICFMCF).

<https://ssrn.com/abstract=2831859>Electronic copy available at: <https://ssrn.com/abstract=2831859>

<https://ssrn.com/abstract=2831859>

- 86) Marr, B., & Chatzkel, J. (2004). Intellectual capital at the crossroads: Managing, measuring, and reporting of IC. *Journal of Intellectual Capital*, 5(2), 224–229. <https://doi.org/10.1108/14691930410533650>
- 87) McRitchie. (2015). *Corporate governance in India*.
- 88) Meek, G. K., & Gray, S. J. (1988). The Value Added Statement: An Innovation For U.S. Companies. *Accounting Horizons*, 2(2), 73.
- 89) Meles, A., Porzio, C., Sampagnaro, G., & Verdoliva, V. (2016). The impact of the intellectual capital efficiency on commercial banks performance: Evidence from the US. *Journal of Multinational Financial Management*, 36, 64–74.
<https://doi.org/10.1016/j.mulfin.2016.04.003>
- 90) Mention, A. L., & Bontis, N. (2013). Intellectual capital and performance within the banking sector of Luxembourg and Belgium. *Journal of Intellectual Capital*, 14(2), 286–309.
<https://doi.org/10.1108/14691931311323896>
- 91) Mishra, R. K., & Kapil, S. (2018). Effect of board characteristics on firm value: Evidence from India. *South Asian Journal of Business Studies*, 7(1), 41–72. <https://doi.org/10.1108/SAJBS-08-2016-0073>
- 92) Mohammed Al Matari, E., Kaid Al Swidi, A., & Hanim Bt Fadzil, F. (2014). Audit Committee Characteristics and Executive Committee Characteristics and Firm Performance in Oman: Empirical Study. *Asian Social Science*, 10(12), p98.
<https://doi.org/10.5539/ass.v10n12p98>
- 93) Mohapatra, S., Jena, S. K., Mitra, A., & Tiwari, A. K. (2019). Intellectual capital and firm performance: Evidence from Indian

- banking sector. *Applied Economics*, 51(57), 6054–6067.
<https://doi.org/10.1080/00036846.2019.1645283>
- 94) Mouritsen, J. (1998). Driving growth: Economic Value Added versus Intellectual Capital. *Management Accounting Research*, 9(4), 461–482.
<https://doi.org/10.1006/mare.1998.0090>
- 95) Mukherjee, T., & Sen, S. S. (2019). Intellectual Capital and Corporate Sustainable Growth: The Indian Evidence. *The Journal of Business Economics and Environmental Studies*, 9(2), 5–15.
<https://doi.org/10.13106/JBEES.2019.VOL9.NO2.5>
- 96) Mukras, M. S. (1993). *Elementary econometrics: Theory, application and policy*. East African Publishers.
- 97) Mullerat, Ramon & Brennan, Daniel. (2005). *Corporate social responsibility: The corporate governance of the 21st century* (2nd ed).
- 98) Musleh, A.-S., Abdalmuttaleb, & Abdalmuttaleb, M. A. (2018). Corporate governance and intellectual capital: Evidence from gulf cooperation council countries. In *Academy of Accounting and Financial Studies Journal* (Vol. 22, Issue 1).
- 99) Nadeem, M., Farooq, M. B., & Ahmed, A. (2019). Does female representation on corporate boards improve intellectual capital efficiency? *Journal of Intellectual Capital*, 20(5), 680–700.
<https://doi.org/10.1108/JIC-01-2019-0007>
- 100) Narayana Murthy. (2003). *The Report of Shri N R Narayana Murthy Committee on Corporate Governance* [Committee Reports].
- 101) Naushad, M., & Malik, S. A. (2015). Corporate Governance and Bank Performance: A Study of Selected Banks in GCC Region.

Asian Social Science, 11(9), p226.

<https://doi.org/10.5539/ass.v11n9p226>

- 102) Nawaz, T. (2017). Momentum investment strategies, corporate governance and firm performance: An analysis of Islamic banks. *Corporate Governance: The International Journal of Business in Society*, 17(2), 192–211. <https://doi.org/10.1108/CG-03-2016-0052>
- 103) Neeraj, Dwivedi, & Arun Kumar Jain. (2005). Corporate governance and performance of Indian firms: The effect of board size and ownership. *Employee Responsibilities and Rights Journal*, 17(3), 161–172.
- 104) Nimtrakoon, S. (2015). The relationship between intellectual capital, firms' market value and financial performance: Empirical evidence from the ASEAN. *Journal of Intellectual Capital*, 16(3), 587–618. <https://doi.org/10.1108/JIC-09-2014-0104>
- 105) Nkundabanyanga, S. K. (2016). Board governance, intellectual capital and firm performance. *Journal of Economic and Administrative Sciences*, 32(1), 20–45. <https://doi.org/10.1108/jeas-09-2014-0020>
- 106) Oppong, G. K., Pattanayak, J. K., & Irfan, Mohd. (2019). Impact of intellectual capital on productivity of insurance companies in Ghana: A panel data analysis with System GMM estimation. *Journal of Intellectual Capital*, 20(6), 763–783. <https://doi.org/10.1108/JIC-12-2018-0220>
- 107) Orazalin, N., Mahmood, M., & Jung Lee, K. (2016). Corporate governance, financial crises and bank performance: Lessons from top Russian banks. *Corporate Governance: The International Journal of*

- Business in Society*, 16(5), 798–814. <https://doi.org/10.1108/CG-10-2015-0145>
- 108) Ousama, A. A., Hammami, H., & Abdulkarim, M. (2020). The association between intellectual capital and financial performance in the Islamic banking industry: An analysis of the GCC banks. *International Journal of Islamic and Middle Eastern Finance and Management*, 13(1), 75–93. <https://doi.org/10.1108/IMEFM-05-2016-0073>
- 109) Oyerinde, A. A. (2014). Corporate Governance and Bank Performance in Nigeria: Further Evidence from Nigeria. *International Journal of Business and Management*, 9(8), p133. <https://doi.org/10.5539/ijbm.v9n8p133>
- 110) Pandya, H. (2011). Corporate Governance Structures and Financial Performance of Selected Indian Banks. *Journal of Management*, 2(2).
- 111) Pedrini, Matteo. (2007). Human capital convergences in intellectual capital and sustainability reports. *Journal of Intellectual Capital*, 8(2), 346–366.
- 112) Pedro, E., Leitão, J., & Alves, H. (2018). Back to the future of intellectual capital research: A systematic literature review. *Management Decision*, 56(11), 2502–2583. <https://doi.org/10.1108/MD-08-2017-0807>
- 113) Petty, R., & Guthrie, J. (2000). Intellectual capital literature review: Measurement, reporting and management. *Journal of*

Intellectual Capital, 1(2), 155–176.

<https://doi.org/10.1108/14691930010348731>

- 114) Pfeffer, J., & Salancik, G. R. (2003). *The external control of organizations: A resource dependence perspective*. Stanford University Press.
- 115) Poh, L. T., Kilicman, A., & Ibrahim, S. N. I. (2018). On intellectual capital and financial performances of banks in Malaysia. *Cogent Economics and Finance*, 6(1).
<https://doi.org/10.1080/23322039.2018.1453574>
- 116) Pulic, A. (1998). Measuring the performance of intellectual potential in knowledge economy. In *2nd McMaster Word Congress on Measuring and Managing Intellectual Capital by the Austrian Team for Intellectual Potential*, 1–20.
- 117) Pulic, A. (2004). Intellectual capital – does it create or destroy value? *Measuring Business Excellence*, 8(1), 62–68.
<https://doi.org/10.1108/13683040410524757>
- 118) Ramadan, M., & Majdalany, G. (2013). *The impact of corporate governance indicators on intellectual capital disclosure: An empirical analysis from the banking sector in the United Arab Emirates*.
- 119) Ranjan, D., Saumya, & Raithatha, M. (2019). Corporate governance and firm performance relationship: Implications for risk-adjusted return behavior. *Managerial and Decision Economics*, 40(8), 923–940.

- 120) Riahi-Belkaoui, A. (2003). Intellectual capital and firm performance of US multinational firms: A study of the resource-based and stakeholder views. *Journal of Intellectual Capital*, 4(2), 215–226. <https://doi.org/10.1108/14691930310472839>
- 121) Rodrigues, L. L., Tejedo-Romero, F., & Craig, R. (2017). Corporate governance and intellectual capital reporting in a period of financial crisis: Evidence from Portugal. *International Journal of Disclosure and Governance*, 14, 1–29.
- 122) Rogers, M. (2008). *CORPORATE GOVERNANCE AND FINANCIAL PERFORMANCE OF SELECTED COMMERCIAL BANKS IN UGANDA*.
- 123) Saeed, S., Rasid, S. Z. A., & Basiruddin, R. (2015). The mediating role of intellectual capital in corporate governance and the corporate performance relationship. *Mediterranean Journal of Social Sciences*, 6(5), 209–219. <https://doi.org/10.5901/mjss.2015.v6n5p209>
- 124) Safieddine, A., Jamali, D., & Noureddine, S. (2009). Corporate governance and intellectual capital: Evidence from an academic institution. *Corporate Governance: The International Journal of Business in Society*, 9(2), 146–157.
- 125) Sanni, M., & Haji, A. A. (2014). The impact of corporate governance attributes on intellectual capital disclosure: A longitudinal investigation of Nigerian banking sector. *Journal of Banking Regulation*, 15(2), 144–163. <https://doi.org/10.1057/jbr.2013.15>
- 126) Sarea, A. M., & Alansari, S. H. (2016). The relationship between intellectual capital and earnings quality: Evidence from listed

- firms in Bahrain Bourse. *International Journal of Learning and Intellectual Capital*, 13(4), 302–316.
- 127) Sarkar, S., Chatterjee, M., & Bhattacharjee, T. (2021). Does CSR disclosure enhance corporate brand performance in emerging economy? Evidence from India. *Journal of Indian Business Research*, 13(2), 253–269. <https://doi.org/10.1108/JIBR-06-2019-0201>
- 128) SEBI. (2017). *Report of the Committee on Corporate Governance* [Committee Reports].
- 129) Seleim, A., & Bontis, N. (2013). National Intellectual Capital and Economic Performance: Empirical Evidence from Developing Countries: National Intellectual Capital. *Knowledge and Process Management*, 20(3), 131–140. <https://doi.org/10.1002/kpm.1412>
- 130) Selvam, M., Thanikachalam, V., Gopinath, R., Kathiravan, C., Amirdha Vasani, S., & Dhanasekar, D. (2019). Intellectual Capital Performance and its Impact on Indian Commercial Banking Industry. *Journal of Engineering and Applied Sciences*, 14(8), 2610–2619. <https://doi.org/10.36478/jeasci.2019.2610.2619>
- 131) Shahwan, T. M., & Habib, A. M. (2020). Does the efficiency of corporate governance and intellectual capital affect a firm's financial distress? Evidence from Egypt. *Journal of Intellectual Capital*, 21(3), 403–430. <https://doi.org/10.1108/JIC-06-2019-0143>
- 132) Shettima, U., & Dzolkarnaini, N. (2018). Board characteristics and microfinance institutions' performance: Panel data evidence from Nigeria. *Journal of Accounting in Emerging Economies*, 8(3), 368–386. <https://doi.org/10.1108/JAEE-01-2017-0006>

- 133) Shiu, H.-J. (2006). The Application of the Value Added Intellectual Coefficient to Measure Corporate Performance: Evidence from Technological Firms. *International Journal of Management*, 23(2), 356–365.
- 134) Shungu, P., Ngirande, H., & Ndlovu, G. (2014). Impact of Corporate Governance on the Performance of Commercial Banks in Zimbabwe. *Mediterranean Journal of Social Sciences*.
<https://doi.org/10.5901/mjss.2014.v5n15p93>
- 135) Singh, S., Sidhu, J., Joshi, M., & Kansal, M. (2016). Measuring intellectual capital performance of Indian banks: A public and private sector comparison. *Managerial Finance*, 42(7), 635–655.
<https://doi.org/10.1108/MF-08-2014-0211>
- 136) Singh, S., Tabassum, N., Darwish, T. K., & Batsakis, G. (2018). Corporate Governance and Tobin's Q as a Measure of Organizational Performance. *British Journal of Management*, 29(1), 171–190. <https://doi.org/10.1111/1467-8551.12237>
- 137) Skyrme, David J. (2000). Developing a knowledge strategy: From management to leadership. *Knowledge Management: Classic and Contemporary Works*, 61–84.
- 138) Ssekiziyivu, B., Mwesigwa, R., Bananuka, J., & Namusobya, Z. (2018). Corporate governance practices in microfinance institutions: Evidence from Uganda. *Cogent Business & Management*, 5(1), 1488508. <https://doi.org/10.1080/23311975.2018.1488508>
- 139) Stepanova, A., & Ivantsova, O. (2013). Role of Corporate Governance in Banking Sector: Evidence from All Over the World.

- 140) Swartz, N., & Firer, S. (2005). Board structure and intellectual capital performance in South Africa. *Meditari Accountancy Research*, 13(2), 145–166. <https://doi.org/10.1108/10222529200500017>
- 141) Tam, O. K., & Tan, M. G.-S. (2007). Ownership, Governance and Firm Performance in Malaysia. *Corporate Governance: An International Review*, 15(2), 208–222. <https://doi.org/10.1111/j.1467-8683.2007.00555.x>
- 142) Tan, H. P., Plowman, D., & Hancock, P. (2007). Intellectual capital and financial returns of companies. *Journal of Intellectual Capital*, 8(1), 76–95. <https://doi.org/10.1108/14691930710715079>
- 143) Ting, I. W. K., & Lean, H. H. (2009). Intellectual capital performance of financial institutions in Malaysia. *Journal of Intellectual Capital*, 10(4), 588–599. <https://doi.org/10.1108/14691930910996661>
- 144) Tomar, S., & Bino, A. (2012). Corporate Governance and Bank Performance: Evidence from Jordanian Banking Industry. *Jordan Journal of Business Administration*, 8(2).
- 145) Tušek, B. (2015). The influence of the audit committee on the internal audit operations in the system of corporate governance – evidence from Croatia. *Economic Research-Ekonomska Istraživanja*, 28(1), 187–203. <https://doi.org/10.1080/1331677X.2015.1028245>

- 146) Uzliawati, L., & Djati, K. (2015). Intellectual capital disclosure, corporate governance structure and firm value in Indonesian banking industry. *International Journal of Monetary Economics and Finance*, 8(2), 162–177.
- 147) Vafeas, N. (1999). Board meeting frequency and firm performance. *Journal of Financial Economics*, 53(1), 113–142.
- 148) Vidyarthi, H. (2019). Dynamics of intellectual capitals and bank efficiency in India. *The Service Industries Journal*, 39(1), 1–24.
<https://doi.org/10.1080/02642069.2018.1435641>
- 149) Wagana, D. M., & Nzulwa, J. D. (2016). Corporate Governance, Board Gender Diversity And Corporate Performance: A Critical Review Of Literature. *European Scientific Journal, ESJ*, 12(7), 221. <https://doi.org/10.19044/esj.2016.v12n7p221>
- 150) White, H. (1980). A Heteroskedasticity-Consistent Covariance Matrix Estimator and a Direct Test for Heteroskedasticity. *Econometrica: Journal of the Econometric Society*, 48(4), 817–838.
- 151) Whiting, R. H., & Birch, G. Y. (2016). Corporate governance and intellectual capital disclosure. *Corporate Ownership and Control*, 13(2), 250–261.
- 152) Xu, X., Yang, X., Zhan, L., Liu, C. K., Zhou, N., & Hu, M. (2017). Examining the relationship between intellectual capital and performance of listed environmental protection companies. *Environmental Progress & Sustainable Energy*, 36(4), 1056–1066.
<https://doi.org/10.1002/ep.12572>

- 153) Yalama, A., & Coskun, M. (2007). Intellectual capital performance of quoted banks on the Istanbul stock exchange market. *Journal of Intellectual Capital*, 8(2), 256–271.
<https://doi.org/10.1108/14691930710742835>
- 154) Yan, X. (2017). Corporate governance and intellectual capital disclosures in CEOs' statements. *Nankai Business Review International*, 8(1), 2–21. <https://doi.org/10.1108/NBRI-09-2016-0032>
- 155) Young, C.-S., Su, H.-Y., Fang, S.-C., & Fang, S.-R. (2009). Cross-country comparison of intellectual capital performance of commercial banks in Asian economies. *The Service Industries Journal*, 29(11), 1565–1579. <https://doi.org/10.1080/02642060902793284>
- 156) Zéghal, D., & Maaloul, A. (2010). Analysing value added as an indicator of intellectual capital and its consequences on company performance. *Journal of Intellectual Capital*, 11(1), 39–60.
<https://doi.org/10.1108/14691931011013325>
- 157) Zhang, J., Zhu, N., & Kong. (2006). Study on intellectual capital and enterprise performance., empirical evidences from the Chinese Securities Market. *Journal of Modern Accounting and Auditing*, 2(10), 35–39.
- 158) Zhou, H., Owusu-Ansah, S., & Maggina, A. (2018). Board of directors, audit committee, and firm performance: Evidence from Greece. *Journal of International Accounting, Auditing and Taxation*, 31, 20–36. <https://doi.org/10.1016/j.intaccaudtax.2018.03.002>

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Sathish Kotte, MBA, Research Scholar,
School of Management Studies,
University of Hyderabad, India.

Irala Lokanandha Reddy, Ph.D.,
Associate Professor, School of
Management Studies, University of
Hyderabad, India. (Corresponding
author)



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Sathish Kotte (India), Irala Lokanandha Reddy (India)

THE INFLUENCE OF CORPORATE GOVERNANCE FACTORS ON INTELLECTUAL CAPITAL PERFORMANCE: PANEL DATA EVIDENCE FROM THE INDIAN BANKING SECTOR

Abstract

This study empirically examined the relationship between corporate governance factors, namely CEO duality, independent directors, board meeting frequency, board size, gender diversity, audit committee size and audit committee meetings, and intellectual capital performance. The above premise is studied using data of 26 commercial banks listed on the Indian Stock Exchange (NSE) from 2010 to 2020. The study used purposive sampling as the methodology and multiple regression models with VAIC and ROA as attributes. VAIC measures the efficiency of intellectual capital. ROA is used to determine financial performance. The results of the study reveal that the use of observational data, independent directors, frequency of board meetings and audit committee size has a positive and significant effect on intellectual performance at a 10% significance level. According to the study's findings, audit committee meetings have a positive impact on intellectual capital performance at a 1% significance level, while board size has a negative impact at a 5% significance level. Among the study results, CEO duality, board meeting frequency and board size have a positive and significant effect on financial performance with 1% significance. Board gender diversity has a negative impact on financial performance. The study's findings indicate that there is no single best way to design corporate governance that applies to all corporate situations, and that good corporate governance factors have a significant impact on improved intellectual capital performance.

Keywords

board characteristics, corporate finance, financial institutions, gender diversity, knowledge-based performance

JEL Classification

G20, G30, G34, O34

INTRODUCTION

In the knowledge-based economy, intellectual capital performance (ICP) has long been recognized as a key strategic asset (Bontis, 1998, 2002; Edvinsson & Malone, 1997; Roos et al., 1997; Stewart, 1998; and Sveiby, 1997). As a result, more focus is placed on issues related to IC evaluation, strategic planning, and reporting (Badia et al., 2019; Giuliani & Chiucchi, 2019). Over the last several decades, the notion of IC has grown within a framework of dynamic capabilities, with its origins in the resource-based view of the organization (Teece et al., 1997). According to the most recent conceptualizations, intellectual capital needs to be supported both statistically as a "stock of knowledge" and dynamically as a firm's potential to reap economic benefits from the IC it holds. In other words, IC cannot be supported in any of these ways in isolation (Volkov & Garanina, 2007; Berezinets et al., 2016). As a result, directors must prioritize knowledge acquisition and knowledge application (Teece, 1981).

According to Van der Meer-Kooistra and Zijlstra (2001) intellectual capital increases the value of enterprises by facilitating the sharing of information and the formation of new facts. According to Petty and Guthrie (2000) The effectiveness of both the labor and the capital markets may be improved through intellectual capital. Additionally, academics have shown that intellectual capital has a good effect on the wealth and performance of organizations (Celenza & Rossi, 2014; Singh et al., 2018; Inkinen, 2015; Zerenler & Gozlu, 2008; Phusavat et al., 2011). Knowledge capital and intellectual capital are important for shareholders and investors to make sure that the managers are making decisions to increase shareholders' wealth through the best utilization of intellectual capital (Appuhami & Bhuyan, 2015).

Intellectual capital is a competitive and strategic resource that ensures better performance. However, it is hard for companies to control and manage knowledge capital. Depending on Van der Meer-Kooistra and Zijlstra (2001) if intellectual capital is not managed appropriately, its potential to add value would not be thoroughly utilized. Because of its complexity and diversity, the management of intellectual capital continues to be one of the most critical tasks for the accounting profession (Dzinkowski, 2000). Several studies have expressed the need of better understanding the function of corporate governance in order to protect and maintain intellectual capital in corporations (Safieddine, 2009). Corporate governance guarantees these choices that were made by management are taken in the best interests of the shareholders by ensuring that intellectual capital is used efficiently. Despite this, only a few studies have examined how corporate governance affects intellectual capital in businesses. It is especially troubling that there needs to be more understanding of the connection between governance and the effectiveness of intellectual capital.

Research studies in India have not tried to figure out how to good governance and intangible capital performance work together (Kamath, 2019b). Given that knowledge and intellectual capital are the core resources for any organizations and that they play primary roles in value creation, it is indeed critical to comprehend the effects of corporate governance factors on Indian firms and how corporate governance standards are applied to utilize intellectual capital successfully. Given the corporate governance and intellectual capital are important to stakeholders, it is necessary to identify the elements that influence the relation between the two. This study contributes in several different ways to the sum of previous research that has already been conducted. One, it brings to light that the earlier literature on CG & IC takes into account all the industries of the Indian economy. Most of the previous studies have looked at corporate governance and intellectual capital independently. Second, this study provides proper evidence of the correlation between corporate governance and intellectual capital by analyzing the data from banks that trade on the National Stock Exchange (NSE). As a result, the findings can help in bringing out a better understanding of corporate board governance and its impact on intellectual capital performance. This will ultimately influence the performance of banks in the Indian economy. Third, this study will help assist intellectual capital research by examining how corporate governance factors affect boards and organizational behavior of intellectual capital efficiency. Fourth, the research utilizes VAIC model, consisting of three components: human, structural, and employed capital. And lastly, the information collected will assist investors, shareholders, policymakers, regulators, authorities, and academicians in improving their understanding of intellectual capital. As presented, this study used the Value-added Intellectual Capital Approach to measure the efficacy of intellectual capital (Pulic, 1998).

1. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

In the literature, at least theoretically, there is a strong correlation between corporate governance practices and IC effectiveness. According to

Keenan and Aggestam (2001), corporate governance is concerned with analyzing and monitoring the production of corporate value. Increased value generation thus depends on maximizing a firm's intellectual capital. In addition, the persons, organizations, and processes that are engaged in governance practices represent a form of intellectual capital (Kiel & Nicholson, 2003; Hillman &

Dalziel, 2003; and Berezinets et al., 2016), tasked with building, enhancing, and leveraging the IC of the company as well as the firm's material and financial capital (Keenan & Aggestam, 2001). Therefore, there is an underlying connection between the notions of corporate governance and IC, since both deal with the creation and enhancement of company wealth and value.

The idea behind IC is that a company should be able to create and use its "knowledge capital." According to Edvinsson and Malone (1997) the term "intellectual capital" means information and knowledge applied to work to produce value. According to Brooking (1996), the term "Intangible Capital" (IC) refers to the aggregate of a company's intangible assets, including market, intellectual property, human-centered, and infrastructure, all of which are necessary for the company to operate effectively. Knowledge-based capital is crucial to value generation, regardless of definition. Current conceptualizations of IC emphasize knowledge execution over knowledge acquisition. According to Volkov and Garanina (2007) and Berezinets et al. (2016), IC represents an organization's capacity to convert current knowledge capital into future economic assets.

Human capital, as emphasized by Bontis (1998), is critical to a company, since it is a potential well-spring of creative energy and fresh perspectives. All of an organization's intangible assets that contribute to employee output are considered structural capital. This includes but is not limited to databases, organizational procedures, patents, and trademarks (Bontis, 2002). Knowledge gained via interactions with clients, vendors, joint venture partners, government agencies, and trade groups are all examples of the external ties that contribute to a company's "relational capital" (Scafarto et al., 2016).

1.1. Efficiency of intellectual capital performance and corporate governance

Some studies have sought to experimentally examine the effect of CG on intellectual capital efficiency in a few nations (Mohd-Saleh & Rahman, 2009). According to the results of a study conducted on all Malaysian exchange-listed companies between 2005 and 2007, the ownership structure

of a company, whether it be foreign, government, or family ownership, has a negative impact on ICP.

The empirical investigation of Taiwanese businesses indicated that industry type does have a role and that the impact of the owner's function on the IC's performance was flawless, especially in the high-tech sector (Liang et al., 2011). Similarly, a new study from Taiwan investigated how IC affects business performance, using CG as a moderating factor in KI enterprises. The strong financial performance of a company is shown in their accumulation of IC, and CG practices, which was also confirmed by their research (Wu et al., 2012). Another research conducted between 2007 and 2009 on 361 Taiwanese enterprises indicated a strong association between the value of intellectual capital and board features such as board size, the share of foreign directors, and autonomous directors. It was found that the ownership structure of a company has no impact on the value of the business (Wang, 2013). A Pakistani study found that CG, IC, and firm financial performance were interconnected meaningfully. Evidence suggests a favorable and statistically significant correlation between CG measures and IC efficiency. Indirect and via intellectual capital is also how CG is said to affect economic performance (Makki & Lodhi, 2014).

In a 4-year research on IC impact assessments in Indonesia, Mahmudi and Nurhayati (2015) discovered that CG-based features such as competence, board autonomy, and audit committee size are associated, while the number of board or audit meetings and audit independent board members has shown no effect. They have discovered that the Audit Committee has no connection or effect on its frequency. Although Veltri and Mazzotta (2016) found the impact of ownership models on the make-up of boards of directors in 179 Italian companies 2008 and 2010. They also emphasized the importance of CG characteristics on a company's financial performance (ROA).

Bohdanowicz (2014) examined 292 companies trading on Poland's Warsaw Stock Exchange between 2008 and 2013. The research revealed an adverse link between the effectiveness of human wealth and knowledge capital. Furthermore, board size negatively affects ICP and corporate

governance elements. Another study on Ethiopian banking industry aimed to assess CG's effect on intellectual capital; it was noted that board size and sex diversity have an effect on ICE for the period 2011–2015. It was also discovered, however, that the board members' remuneration showed no effect (Meressa, 2016).

Abidin et al. (2009) attempted to measure board characteristics' effect on IC performance and profitability at 75 Malaysian companies. According to their findings, a clear correlation involving board size and IC is provided. Safieddine (2009) argues, because of lack of good governance practices, that universities cannot attract and maintain ICs, based on a main research conducted in one American university only. The relationship between the CG, IC and corporate social responsibility for Istanbul industrial companies was examined by Altuner et al. (2015), who discovered a perfect connection and interaction with the variables. Mahmudi and Nurhayati (2015) show that board governance characteristics in the form of the number of independent directors and the audit size significantly affect a firm's intellectual capital efficiency. However, the independence of the audit committee, the number of annual board meetings and the supervisory expertise of the board commissioners did not significantly affect intellectual capital performance.

Faisal et al. (2016) analyzed how corporate governance affects the effectiveness of intellectual capital. They continued by saying that director ownership, board meetings, and CEO duality negatively affect intellectual capital's effectiveness in commercial banks listed on the Karachi Stock Exchange. Board composition does not affect performance.

Arifin (2016) examined corporate governance and intellectual capital in the Indonesian context, finding that all variables, except commissioners, directors, education-high school and capital employed efficiency, did not affect Tobins'Q significantly, and all variables were statistically insignificant for ROA.

Iqbal and Zaib (2017) discovered that board size and independence considerably increase the efficiency of intellectual capital in both forms of group banks (commercial banks and micro & development banks). Corporate governance also strongly influences intellectual capital in both

types of group banks. CG and ICP have a positive impact on profitability for each group. Kamath (2019a) conducted a seven-year study to examine the effect of corporate governance aspects on the intellectual capital efficiency of 95 Indian companies listed on the NSE. Only large-cap Indian enterprises' IC performance is affected by CG features. The major influences are board size and director independence. Board size significantly affects large-cap IC performance.

Shahwan and Habib (2020) found insufficient evidence to support the hypothesis that CG and ICP have improved over time. There was no correlation with effective company governance and financial issues. Additionally, intellectual capital efficiency negatively affected financial problems. CG and IC efficiency improved little over the study period. CG effectiveness does not affect financial problems. IC's efficiency score exacerbated financial issues.

1.2. Corporate governance and firm performance

Board size and firm ratio significantly affected firm value and market performance in 348 Australian listed businesses (Kiel & Nicholson, 2003). One further study of 347 Malaysian firms looked at the impact of major shareholders' stakes on board size (a positive sign), the presence of many directors (a negative sign), and financial and market performance. These companies' concentrated ownership shows widespread support. The board size depends on the company and its nature. However, the board, executive management, and duality appear unrelated (Haniffa & Hudaib, 2006).

Dwivedi and Jain (2005) examined 340 firms in 24 sectors from 1997 to 2001 to see how CG features like board size and financial performance affected proprietary construction enterprises in India. Performance was weakly positively correlated with board size. It varies across ownership patterns. According to Aboagye and Otieku (2010), corporate leadership and the success of rural and community banks in Ethiopia are not correlated. As far as the authors are concerned, the newly added codes have no effect on the outcomes. Following correction for bias due to sample selection and endogenous control, a pan-European

research, including 14 countries, demonstrated a positive correlation between CG evaluations and performance (Renders et al., 2010).

H1: Corporate governance factors have an impact on intellectual capital of Scheduled Commercial Banks (SCBs) in India.

H1a: CEO Duality has a significant impact on intellectual capital performance.

H1b: Board size has a significant impact on intellectual capital performance.

H1c: Board meetings have a significant impact on intellectual capital performance.

H1d: Independence of the board has a significant impact on intellectual capital performance.

H1e: Audit Committee Size has a significant impact on intellectual capital performance.

H1f: Audit committee meetings have a significant impact on intellectual capital performance.

H1g: Gender diversity has a significant impact on intellectual capital performance.

H2: Corporate governance influences the financial performance of Scheduled Commercial Banks (SCBs) in India.

2. RESEARCH METHODOLOGY

This research population is 26 scheduled commercial banks listed on the National Stock Exchange (NSE) in India from 2010 to 2020. Researchers employed a method called “purposive sampling” to compile their data. The information gathered is first organized in the form of a multiple regression analysis. Descriptive statistics for each of the variables are provided so that the nature of the data may be understood. Multiple Regressions is used to analyze the data as it helps to find the relationship between independent and dependent variables. The Pulic (2000), Chang (2007), and Edvinsson and Malone (1997) modified models are used to assess IC components. Literature uses audit committee independent variables (Hamdan

et al., 2013; Al-Musali & Ismail, 2014; Buallay, 2018). Prior studies also apply the board director’s independent factors (Hidalgo et al., 2011; Taliyang et al., 2011; and Rodrigues et al., 2017).

$$VAIC_{it} = \beta_0 + \beta_1 CEO_{it} + \beta_2 BSIZE_{it} + \beta_3 BIND_{it} + \beta_4 BMEET_{it} + \beta_5 ACSIZE_{it} + \beta_6 ACMEET_{it} + \beta_7 FSIZE_{it} + \beta_8 LEV_{it} + \beta_9 FAEG_{it} + \varepsilon_{it}, \quad (1)$$

$$ROA_{it} = \beta_0 + \beta_1 CEO_{it} + \beta_2 BSIZE_{it} + \beta_3 BIND_{it} + \beta_4 BMEET_{it} + \beta_5 ACSIZE_{it} + \beta_6 ACMEET_{it} + \beta_7 FSIZE_{it} + \beta_8 LEV_{it} + \beta_9 FAEG_{it} + \varepsilon_{it}, \quad (2)$$

where Return on Assets (ROA), Value added intellectual capital (VAIC), CEO Duality (CEO), Board Size (BSIZE), Board Independent Directors (IND), Frequency of board meetings (BMEET), Audit committee size (ACSIZE), Audit committee meetings (ACMEET), Firm Age (FAEG), Firm Size (FSIZE), Leverages (LEV).

3. RESULTS

The data consist of 26 banks and 286 observations of the last eleven financial years of scheduled commercial banks in India. This information is used to analyze the effect of corporate governance on the financial and intellectual capital performance of Indian banks. The study used multiple regression models. The STATA (Statistics and Data Analysis) estimate is shown in Tables 2 and 3. There is strong statistical support for both models in the regression analyses.

The result shows that the average of CEO Duality and IND is about 0.93 and 4.9 with a range of 0-1 and 1-12, and Std. dev is 0.26 and 2.30, respectively. The average value of board diversity is 1.04 with a range of 0-3, and Std. dev is 0.81. Moreover, the mean value of BSZ and FBM are 12.14 and 12.28 with a range of 6-19 and 4-28, and Std. dev is 2.58 and 4.26. The average of ACS and ACM are 6.61 and 9.91 with a range of 3-13 and 4-18, and Std. dev is 2.12 and 2.66. The mean value of VAIC and VA are

Table 1. Descriptive statistics

Variable	Obs.	Mean	Std. dev.	Min	Max
CEO Duality	286	.9265734	.2612926	0	1
IND	286	4.905594	2.296031	1	12
Board Diversity	286	1.048951	.8150227	0	3
BSZ	286	12.14336	2.581393	6	19
FBM	286	12.28671	4.265113	4	28
ACS	286	6.618881	2.122113	3	13
ACM	286	9.91958	2.664352	4	18
VAIC	286	10.89439	2.835113	5.542972	20.74012
VA	286	269,358.3	400,352.8	5,490.495	2,961,582
HCE	286	9.916466	2.802863	4.675835	19.71206
SCE	286	.8909869	.0306892	.7861345	.9492696
CEE	286	.0869336	.0117967	.0550307	.1520061
Bank Age	286	74.66434	35.13562	6	126
Bank Size	286	10.04151	4.518796	4.788962	17.49216
LEV	286	22.45578	34.26708	.1070284	201.7199
ROA	286	.0063396	.014413	-.0636785	.082702

about 10.9 and 269,358.3 with a range of 5.54-20.74 and 5,490.49-2,961,582, and the Std. dev is 2.83 and 400,352.8. The average value of HCE and SCE are 9.91 and 0.89 with 4.67-19.71 and 0.78-0.94, and the Std. dev is 2.80 and 0.031. The mean value of CEE and Bank Age are 0.08 and 74.66 with 0.06-0.15 and 6-126, and the Std. dev is 0.01 and 35.13. The average value of Bank Size and LEV are 10.04 and 22.46 with 4.79-17.50 and 0.10-201.72, and the Std. dev is 4.51 and 0.10. The mean value of ROA is 0.006 with a range of -0.06-0.08 and the Std. dev is 0.014.

As shown in Table 2, the overall corporate governance factors explain the intellectual capital effectiveness of India's Scheduled Commercial Banks. Independent directors, board size, frequency of board meetings, audit size, audit meetings, and bank age influence intellectual capital performance. According to what was forecasted, the autonomy of directors positively affects the intellectual capital performance of financial institutions such as banks. This outcome is consistent with the findings of earlier studies by Abidin et al. (2009), Mahmudi and Nurhayati (2015), Meressa (2016),

Table 2. Regression analyses for corporate governance factors' impact on intellectual capital performance of scheduled commercial banks in India

VAIC	Coef.	St. err.	t-value	p-value	[95% Conf.	Interval]	Sig.
CEO-Duality	.996	.776	1.28	.201	−.532	2.524	—
IND	.192	.11	1.74	.082	−.025	.409	*
Gender Diversity	.09	.197	0.46	.649	−.299	.479	—
BSZ	−.184	.073	−2.51	.013	−.327	−.04	**
FBM	.089	.049	1.80	.073	−.008	.186	*
ACS	.164	.096	1.71	.089	−.025	.353	*
ACM	.266	.068	3.91	0	.132	.4	***
Bank Age	−.037	.006	−5.76	0	−.05	−.024	***
Bank Size	−.041	.065	−0.64	.523	−.169	.086	—
LEV	−.006	.006	−1.02	.309	−.019	.006	—
Constant	9.666	1.337	7.23	0	7.034	12.299	***
Mean dependent variable		10.894	SD dependent variable			2.835	
R-squared		0.239	Number of obs.			286	
F-test		8.645	Prob.> F			0.000	
Akaike crit. (AIC)		1,350.519	Bayesian crit. (BIC)			1,390.735	

Note: *** p < .01, ** p < .05, * p < .1. CEO Duality, Independent Directors (IND), Frequency of board meetings (FBM), Audit committee size (ACS), Audit committee meetings (ACM), Bank Age, Bank Size, Leverages (LEV).

and Kamath(2019b). It is believed that the number of board members has a detrimental influence on the effectiveness of intellectual capital. It is also assumed that a bigger board size would bring in a wider variety of skills and knowledge with them (Kiel & Nicholson, 2003; and Kamath, 2019b) that it will further encourage transparency in decision making and bring more efficiency.

The regression analysis (Table 2) results show that the frequency of board meetings had a significant ($\beta = 0.089$, $P < 0.073$) impact on VAIC. The association between board meetings and ICP is significant. These results are consistent with research conducted by (Vafeas, 2003), which also found that the frequency of board meetings positively affects intellectual capital performance.

These findings also suggested that a high frequency of board meetings always ensures that intellectual capital performance also increases because it depends on board meetings' effectiveness. The number of board meetings and audit committee size positively affect intellectual capital efficiency. These results are in line with those of Li et al. (2012), who discovered that a larger audit committee improves the effectiveness of intellectual capital. It is anticipated that a rise in the number of audit committees will lead to a rise in banks' intellectual capital performance. Company performance,

particularly intellectual capital, is enhanced with the audit committee's help implementing the company's internal control. The efficiency of the Board of Commissioners is also improved. Intellectual capital performance is greatly improved when the audit committee meets. If the audit committee meets more often, they will do a better job. As a result, banks are making progress in optimizing the performance of their intellectual capital.

It is important to keep in mind that CEO-duality variable is a dummy variable, since the value may be either 0 or 1. This study shows that the coefficient of CEO-duality variable is not very significant. The results contradict those of Firstenberg and Malkiel (1994) who claimed that businesses led by a CEO duality underperformed financially. The negligible value of this variable suggests that there is no substantial difference in VAIC efficiency between banks with CEO-duality and those without. The coefficient is positive, although the model expected a negative association between CEO-duality and VAIC.

Results show that gender diversity is statistically insignificant ($p = 0.649$) with IC performance. That means gender diversity has no significantly influence on IC efficiency in selected Scheduled Commercial Banks in India. The regression results show that bank size and leverage are insignificant.

Table 3. Regression analyses for corporate governance factors impact on financial performance of Scheduled Commercial Banks (SCBs) in India

ROA	Coef.	Std. err.	t-value	p-value	[95% Conf	Interval]	Sig.
CEO-Duality	.008	.004	1.81	.072	-.001	.016	*
IND	0	.001	-0.20	.838	-.001	.001	—
Gender Diversity	-.002	.001	-2.01	.046	-.004	0	***
BSZ	.001	0	3.60	0	.001	.002	***
FBM	0	0	-1.69	.093	-.001	0	*
ACS	0	.001	-0.07	.94	-.001	.001	—
ACM	0	0	0.03	.978	-.001	.001	—
Bank Age	0	0	0.33	.742	0	0	—
Bank Size	-.001	0	-1.94	.053	-.001	0	*
LEV	0	0	2.52	.012	0	0	**
Constant	-.005	.007	-0.75	.455	-.02	.009	—
Mean dependent variable		0.006		SD dependent variable		0.014	
R-squared		0.130		Number of obs.		286	
F-test		4.099		Prob.> F		0.000	
Akaike crit. (AIC)		-1,632.175		Bayesian crit. (BIC)		-1,591.959	

Note: *** $p < .01$, ** $p < .05$, * $p < .1$. Return on Assets (ROA) CEO Duality, Independent Directors (IND), Gender diversity, Frequency of board meetings (FBM), Audit committee size (ACS), Audit committee meetings (ACM), Bank Age, Bank Size, Leverages (LEV).

nificant and that bank age negatively affects intellectual capital performance. Users may view it unfavorably if they need help understanding the significance of the banks' size, age, and leverage in the financial statement.

Thus, hypothesis *H1* is proven and the variable considerably affects the intellectual capital performance of scheduled commercial banks. All five hypotheses (*H1b*, *H1c*, *H1d*, *H1e*, and *H1f*) are supported by the data, showing that the factors substantially affect IC performance (VAIC). But the *H1b* component had a negatively significant influence. *H1a* and *H1g* hypotheses are insignificant as the variables are impacted by VAIC.

As shown in Table 3, the overall corporate governance factors also explain the financial performance (ROA) of Indian commercial scheduled banks. The F-value indicates that corporate governance factors influence ROA. The P-value ($P < 0.05$) is less than the critical value of accepting the hypothesis. This means that it has a significant impact on the financial performance of the scheduled commercial banks in India. CEO-duality ($\beta = 0.008$, $P < 0.10$) is positive and it has significant effect on financial performance during the research period. Thus, the coefficients suggest that the dual role of the CEO is likely to improve a banks' performance. The results are consistent with those of (Wicaksono, 2022), who found that CEO duality has a positive effect on firm performance.

It has been shown statistically that gender diversity has a negative effect on the performance of financial institutions ($\beta = -0.002$, $P < 0.05$). When it comes to gender equality, the findings from the existing literature are mixed. Diversity in terms of gender has been found to have a detrimental impact on business success (Shrader et al., 1997). Research, however, has proven the opposite to be true (Dutta & Bose, 2007). According to the findings, enhancing bank performance is also better when there is less gender diversity.

These results showed that board size value of t-test revealed the estimation value is 3.60, Coef. value of 0.001 and p-value of 0.000 ($p < 0.01$). Therefore, this indicates that the board size had a positive and significant ($p < 0.001$) impact on financial performance (ROA). Research by AlHares et al. (2019) and Duc and Phan (2013) reached similar conclusions, namely that a larger board was associated with better financial results. Similarly, the data supported the notion that big board size results in optimal value maximizing outcomes for major corporations.

The results showed that the frequency board meetings value of t-test revealed the estimation value is -1.69, coefficient-value of 0.000 and p-value of 0.093 ($p < 0.1$). Therefore, this indicates that the frequency of board meetings of directors was significant at the level of $P < 0.01$ significance. It is concluded that the frequency board meetings had a positive and significant impact on financial performance (ROA). The results indicate that a larger number of board meetings increases bank financial performance. This finding is also confirmed by Dalton et al. (1998) and Sanda et al. (2010). These studies have found that board meetings positively affect financial performance.

This study's findings showed that Independent Directors of t-test value revealed the estimation value is -0.20, the coefficient value is 0.000 and the p-value is 0.838 ($p > 0.05$). Ghosh (2006), and Sarkar et al. (2008) both showed that the Independent Director had an insignificant effect on financial efficiency (ROA). ACS and ACM have no significant impact. This suggests that the frequency of ACS and ACM lacks some predictive ability on the financial performance of banks. The evidence for this outcome is supported by Ararat et al. (2017) and Bansal and Sharma (2016).

Going by the findings of regression analysis, bank age does not significantly affect financial performance. Bank size and leverage have a statistically significant effect on ROA.

CONCLUSION

The aim of this study is to determine how corporate governance issues affect the intellectual capital performance of Indian banks. In the context of the relationship between CG and IC, it can be observed that corporate governance has the potential to influence management decision making.

The results also showed that the Board independence and board size showed a significant positive relationship with the financial performance (ROA) of the banks, whereas board diversity was found to have a negative influence on the financial performance (ROA) of banks. The results of the study suggest that the better the corporate governance, the better the financial performance of banks. This result indicates that corporate governance is an important factor for ensuring the financial soundness of banks. Therefore, it is important for the boards of the banks to ensure that the corporate governance practices are being implemented effectively.

IMPLICATIONS FROM THE STUDY

The findings of the study can be useful to bank managers, regulators, legislators, and academicians. They would also help those in other financial sectors. The findings of this study would also enable standard setters and regulatory agencies in India to adjust the present corporate governance code to improve VAIC in Indian banks. While developing the IC, authorities should also think about drafting sector-specific recommendations for the banking industry. This study will motivate legislators to make rules because Indian banks depend on trained employees and technology to produce necessary abilities in a competitive scenario. Then this will transform the supervisor's behavior in understanding VAIC and taking the necessary steps to manage financial and intangible assets to increase efficiency and productivity.

RESEARCH LIMITATIONS AND FUTURE DIRECTIONS

This study has a few limitations, which highlight the need for further studies. The study was conducted on the impact of corporate governance on the intellectual capital performance of the Indian banking sector. However, the intellectual capital of the Indian banks is also influenced by other corporate governance factors. Future studies should include other corporate governance factors. The study used secondary sources to gather data, mainly RBI Data Warehouse and IBS annual reports. Future studies can use primary data such as surveys and interviews to better understand factors affecting intellectual capital and financial performance. The study used the multiple regression method to investigate the effect of corporate governance on intellectual capital and financial performance. Future studies may employ alternative estimating methods such as scope analysis. VAIC technique was used in this study to measure intellectual capital, but this method is a difficult one. Future research may employ a different method to accurately quantify the intellectual capital of banks.

AUTHOR CONTRIBUTIONS

Conceptualization: Sathish Kotte, Irala Lokanandha Reddy.

Funding acquisition: Sathish Kotte.

Investigation: Sathish Kotte, Irala Lokanandha Reddy.

Methodology: Sathish Kotte, Irala Lokanandha Reddy.

Resources: Irala Lokanandha Reddy.

Software: Sathish Kotte, Irala Lokanandha Reddy.

Supervision: Irala Lokanandha Reddy.

Validation: Sathish Kotte.

Visualization: Sathish Kotte.

Writing – original draft: Sathish Kotte, Irala Lokanandha Reddy.

Writing – reviewing & editing: Sathish Kotte, Irala Lokanandha Reddy.

REFERENCES

1. Abidin, Z. Z., Kamal, N., & Jusoff, K. (2009). Board Structure and Corporate Performance in Malaysia. *International Journal of Economics and Finance*, 1(1), 150-164. <https://doi.org/10.5539/ijef.v1n1p150>
2. Aboagye, A. Q., & Otioku, J. (2010). Are Ghanaian MFIs' performance associated with corporate governance? *Corporate Governance*, 10(3), 307-320. <https://doi.org/10.1108/14720701011051938>
3. AlHares, A., Dominic, G., & Al Abed, R. (2019). The corporate governance practices: Evidence from MENA countries. *Theoretical Economics Letters*, 9(4), 999-1019. <https://doi.org/10.4236/tel.2019.94065>
4. Al-Musali, M. A. K., & Ismail, K. N. I. K. (2014). Intellectual Capital and its Effect on Financial Performance of Banks: Evidence from Saudi Arabia. *Procedia – Social and Behavioral Sciences*, 164, 201-207. <https://doi.org/10.1016/j.sbspro.2014.11.068>
5. Altuner, D., Çelik, S., & Güleç, T. C. (2015). The linkages among intellectual capital, corporate governance and corporate social responsibility. *Corporate Governance*, 15(4), 491-507. <https://doi.org/10.1108/CG-04-2014-0044>
6. Appuhami, R., & Bhuyan, M. (2015). Examining the influence of corporate governance on intellectual capital efficiency evidence from top service firms in Australia. *Managerial Auditing Journal*, 30(4-5), 347-372. <https://doi.org/10.1108/MAJ-04-2014-1022>
7. Ararat, M., Black, B. S., & Yurtoglu, B. B. (2017). The effect of corporate governance on firm value and profitability: Time-series evidence from Turkey. *Emerging Markets Review*, 30, 113-132. <https://doi.org/10.1016/j.ememar.2016.10.001>
8. Arifin, J. (2016). Corporate Governance and Intellectual Capital on Financial Performance of Bank Sector Companies: Indonesia Stock Exchange 2008-2012. *Journal of Administrative Sciences and Policy Studies*, 4(1). <https://doi.org/10.15640/jasps.v4n1a4>
9. Badia, F., Dicuonzo, G., Petruzzelli, S., & Dell'Atti, V. (2019). Integrated reporting in action: Mobilizing intellectual capital to improve management and governance practices. *Journal of Management and Governance*, 23(2), 299-320. <https://doi.org/10.1007/s10997-018-9420-1>
10. Bansal, N., & Sharma, A. K. (2016). Audit Committee, Corporate Governance and Firm Performance: Empirical Evidence from India. *International Journal of Economics and Finance*, 8(3), 103. <https://doi.org/10.5539/ijef.v8n3p103>
11. Berezinets, I., Garanina, T., & Ilina, Y. (2016). Intellectual capital of a board of directors and its elements: Introduction to the concepts. *Journal of Intellectual Capital*, 17(4), 632-653. <https://doi.org/10.1108/JIC-01-2016-0003>
12. Black, B. S., Love, I., & Rachinsky, A. (2006). Corporate governance indices and firms' market values: Time series evidence from Russia. *Emerging Markets Review*, 7(4), 361-379. <https://doi.org/10.1016/j.ememar.2006.09.004>
13. Bohdanowicz, L. (2014). Managerial Ownership, Supervisory Board Committees and Substitution. In M. Asal (Ed.), *Contemporary Problems in Corporate Governance* (pp. 23-44). Retrieved from <https://www.diva-portal.org/smash/get/diva2:915816/FULLTEXT02.pdf#page=25>
14. Bontis, N. (1998). Intellectual capital: An exploratory study that develops measures and models. *Management Decision*, 36(2), 63-76. <https://doi.org/10.1108/00251749810204142>
15. Bontis, N. (2002). Assessing knowledge assets: A review of the models used to measure intellectual capital. *International Journal of Management Reviews*, 3(1), 41-60. <https://doi.org/10.1111/1468-2370.00053>
16. Brooking, A. (1996). *Intellectual capital: Core asset for the third millennium Enterprise*. London: International Thomson Business Press.
17. Buallay, A. (2018). Audit committee characteristics: An empirical investigation of the contribution to intellectual capital efficiency. *Measuring Business Excellence*, 22(2), 183-200. <https://doi.org/10.1108/MBE-09-2017-0064>
18. Celenza, D., & Rossi, F. (2014). Intellectual capital and performance of listed companies: Empirical evidence from Italy. *Measuring Business Excellence*, 18(1), 22-35. <https://doi.org/10.1108/MBE-10-2013-0054>
19. Cenciarelli, V. G., Greco, G., & Allegrini, M. (2018). Does intellectual capital help predict bankruptcy? *Journal of Intellectual Capital*, 19(2), 321-337. <https://doi.org/10.1108/JIC-03-2017-0047>
20. Dalton, D. R., Daily, C. M., Ellstrand, A. E., & Johnson, J. L. (1998). Meta-analytic reviews of board composition, leadership structure, and financial performance. *Strategic Management Journal*, 19(3), 269-290. [https://doi.org/10.1002/\(SICI\)1097-0266\(199803\)19:3<3C269::AID-SMJ950%3E3.0.CO;2-K](https://doi.org/10.1002/(SICI)1097-0266(199803)19:3<3C269::AID-SMJ950%3E3.0.CO;2-K)
21. Duc, V., & Phan, T. (2013). Corporate governance and firm performance: Empirical evidence from Vietnam. *Journal of Economic Development*, 7(1), 62-78. Retrieved from http://jabes.ueh.edu.vn/Content/ArticleFiles/oldbv_en/2013/Thang%2010/5vohongduc.pdf
22. Dutta, P., & Bose, S. (2007). Gender Diversity in the Boardroom and Financial Performance of Commercial Banks: Evidence from Bangladesh. *The Cost & Management*, 34(6), 70-74. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1029041
23. Dwivedi, N., & Jain, A. K. (2005). Corporate governance and performance of Indian firms: The effect of board size and ownership. *Employee Responsibilities and Rights Journal*, 17(3), 161-172. <https://doi.org/10.1007/s10672-005-6939-5>
24. Dzinkowski, R. (2000). The Measurement and Management of Intellectual Capital. *Management Accounting*, 78(2), 32-36.

25. Edvinsson, L., & Malone, M. S. (1997). *Intellectual capital: The proven way to establish your company's real value by finding its hidden brainpower*. New York: HarperBusiness.
26. Faisal, M., Hassan, M., Shahid, M. S., Rizwan, M., & Qureshi, Z. A. (2016). Impact of Corporate Governance On Intellectual Capital Efficiency: Evidence from KSE Listed Commercial Banks. *Science International (Lahore)*, 28(4), 353-361. Retrieved from <http://www.sci-int.com/pdf/13065942941%20a%20353-361%20Maria%20Faisal,%20Muhammad%20Hassan--SS-pending.pdf>
27. Firstenberg, P. B., & Malkiel, B. G. (1994). The twenty-first century boardroom who will be in charge? *MIT Sloan Management Review*, 36(1), 27. Retrieved from <https://sloanreview.mit.edu/article/the-twentyfirst-century-boardroom-who-will-be-in-charge/>
28. Ghosh, S. (2006). Do board characteristics affect corporate performance? Firm-level evidence for India. *Applied Economics Letters*, 13(7), 435-443. <https://doi.org/10.1080/13504850500398617>
29. Giuliani, M., & Chiucchi, M. S. (2019). Guess who's coming to dinner: The case of IC reporting in Italy. *Journal of Management and Governance*, 23(2), 403-433. <https://doi.org/10.1007/s10997-018-9432-x>
30. Hamdan, N., Mcknight, P. E., Mcknight, K., & Arfstrom, K. M. (2013). *The flipped learning model: A white paper based on the literature review titled a review of flipped learning*. Flipped learning Network/pearson/George Mason University. Retrieved from https://flippedlearning.org/wp-content/uploads/2016/07/WhitePaper_FlippedLearning.pdf
31. Haniffa, R., & Hudaib, M. (2006). Corporate governance structure and performance of Malaysian listed companies. *Journal of Business Finance & Accounting*, 33(7-8), 1034-1062. <https://doi.org/10.1111/j.1468-5957.2006.00594.x>
32. Hidalgo, R. L., Garcia-Meca, E., & Martinez, I. (2011). Corporate governance and intellectual capital disclosure. *Journal of Business Ethics*, 100(3), 483-495. <https://doi.org/10.1007/s10551-010-0692-x>
33. Hillman, A. J., & Dalziel, T. (2003). Boards of directors and firm performance: Integrating agency and resource dependence perspectives. *Academy of Management Review*, 28(3), 383-396. <https://doi.org/10.2307/30040728>
34. Inkinen, H. (2015). Review of empirical research on intellectual capital and firm performance. *Journal of Intellectual Capital*, 16(3), 518-565. <https://doi.org/10.1108/JIC-01-2015-0002>
35. Iqbal, J., & Zaib, J. (2017). Corporate Governance, Intellectual Capital and Financial Performance of Banks listed in Pakistan Stock Exchange. *Pakistan Administrative Review*, 1(3), 175-196. Retrieved from <https://www.ssoar.info/ssoar/handle/document/55491>
36. Kamath, B. (2019a). Board Characteristics and Intellectual Capital Performance: A Comparison of Service vs. Manufacturing Firms in India. *Scholedge International Journal of Business Policy & Governance*, 6(1), 1. <https://doi.org/10.19085/sijbpg060101>
37. Kamath, B. (2019b). Impact of corporate governance characteristics on intellectual capital performance of firms in India. *International Journal of Disclosure and Governance*, 16(1), 20-36. <https://doi.org/10.1057/s41310-019-00054-0>
38. Keenan, J., & Aggestam, M. (2001). Corporate Governance and Intellectual Capital: Some conceptualisations. *Corporate Governance: An International Review*, 9(4), 259-275. <https://doi.org/10.1111/1467-8683.00254>
39. Kiel, G. C., & Nicholson, G. J. (2003). Board Composition and Corporate Performance: How the Australian experience informs contrasting theories of corporate governance. *Corporate Governance: An International Review*, 11(3), 189-205. <https://doi.org/10.1111/1467-8683.00318>
40. Li, J., Mangena, M., & Pike, R. (2012). The effect of audit committee characteristics on intellectual capital disclosure. *The British Accounting Review*, 44(2), 98-110. <https://doi.org/10.1016/j.bar.2012.03.003>
41. Liang, C.-J., Huang, T.-T., & Lin, W.-C. (2011). Does ownership structure affect firm value? Intellectual capital across industries perspective. *Journal of Intellectual Capital*, 12(4), 552-570. <https://doi.org/10.1108/14691931111181724>
42. Mahmudi, B., & Nurhayati, E. (2015). The Influence of Board Governance Characteristics on Intellectual Capital Performance (Empirical Study on Listed Banks in BEI 2008-2012). *Review of Integrative Business and Economics Research*, 4(1), 417. Retrieved from https://sibresearch.org/uploads/3/4/0/9/34097180/riber_h14-266_417-430.pdf
43. Makki, M. A. M., & Lodhi, S. A. (2014). Impact of Corporate Governance on Intellectual Capital Efficiency and Financial Performance. *Pakistan Journal of Commerce and Social Sciences*, 8(2), 305-330. Retrieved from <http://www.jespk.net/publications/179.pdf>
44. Meressa, H. A. (2016). Determinants of intellectual capital performance: Empirical evidence from Ethiopian banks. *Research Journal of Finance and Accounting*, 7(13), 10-19. Retrieved from <https://core.ac.uk/reader/234631490>
45. Mohd-Saleh, N., & Rahman, M. R. C. A. (2009). Ownership structure and intellectual capital performance in Malaysia. *Asian Academy of Management Journal of Accounting and Finance*, 5(1), 1-29. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1153908
46. Petty, R., & Guthrie, J. (2000). Intellectual capital literature review: Measurement, reporting and management. *Journal of Intellectual Capital*, 1(2), 155-176. <https://doi.org/10.1108/14691930010348731>
47. Phusavat, K., Comepa, N., Sitko-Lutek, A., & Ooi, K. B. (2011). Interrelationships between intellectual capital and performance: Empirical examination. *Industrial*

- Management & Data Systems*, 111(6), 810-829. <https://doi.org/10.1108/02635571111144928>
48. Pulic, A. (1998). Measuring the performance of intellectual potential in knowledge economy. In *9th Annual National Business Conference* (pp. 1-20). Retrieved from <https://www.bib.irb.hr/35384>
49. Renders, A., Gaeremynck, A., & Sercu, P. (2010). Corporate-Governance Ratings and Company Performance: A Cross-European Study. *Corporate Governance*, 18(2), 87-106. <https://doi.org/10.1111/j.1467-8683.2010.00791.x>
50. Rodrigues, L. L., Tejedro-Romero, F., & Craig, R. (2017). Corporate governance and intellectual capital reporting in a period of financial crisis: Evidence from Portugal. *International Journal of Disclosure and Governance*, 14, 1-29. <https://doi.org/10.1057/jdg.2015.20>
51. Roos, J., Roos, G., Dragonetti, N. C., & Edvinsson, L. (1997). *Intellectual capital: Navigating the new business landscape*. Springer. <https://doi.org/10.1007/978-1-349-14494-5>
52. Safieddine, A. (2009). Islamic financial institutions and corporate governance: New insights for agency theory. *Corporate Governance: An International Review*, 17(2), 142-158. <https://doi.org/10.1111/j.1467-8683.2009.00729.x>
53. Sanda, A. U., Mikailu, A. S., & Garba, T. (2010). Corporate governance mechanisms and firms' financial performance in Nigeria. *Afro-Asian Journal of Finance and Accounting*, 2(1), 22. <https://doi.org/10.1504/AJFA.2010.035193>
54. Sarkar, J., Sarkar, S., & Sen, K. (2008). Board of Directors and Opportunistic Earnings Management: Evidence from India. *Journal of Accounting, Auditing & Finance*, 23(4), 517-551. <https://doi.org/10.1177/0148558X0802300405>
55. Scafarto, V., Ricci, F., & Scafarto, F. (2016). Intellectual capital and firm performance in the global agribusiness industry: The moderating role of human capital. *Journal of Intellectual Capital*, 17(3), 530-552. <https://doi.org/10.1108/JIC-11-2015-0096>
56. Shahwan, T. M., & Habib, A. M. (2020). Does the efficiency of corporate governance and intellectual capital affect a firm's financial distress? Evidence from Egypt. *Journal of Intellectual Capital*, 21(3), 403-430. <https://doi.org/10.1108/JIC-06-2019-0143>
57. Shrader, C. B., Blackburn, V. B., & Iles, P. (1997). Women In Management And Firm Financial Performance: An Exploratory Study. *Journal of Managerial Issues*, 9(3), 355-372. Retrieved from <https://www.jstor.org/stable/40604152>
58. Singh, S., Tabassum, N., Darwish, T. K., & Batsakis, G. (2018). Corporate Governance and Tobin's Q as a Measure of Organizational Performance. *British Journal of Management*, 29(1), 171-190. <https://doi.org/10.1111/1467-8551.12237>
59. Stewart, T. A. (1998). *Intellectual capital: The new wealth of organizations*. Crown Business.
60. Sveiby, K. E. (1997). *The new organizational wealth: Managing & measuring knowledge-based assets*. Berrett-Koehler Publishers.
61. Taliyang, S. M., & Jusop, M. (2011). Intellectual capital disclosure and corporate governance structure: Evidence in Malaysia. *International Journal of Business and Management*, 6(12), 109. <https://doi.org/10.5539/ijbm.v6n12p109>
62. Teece, D. J. (1981). The market for know-how and the efficient international transfer of technology. *The Annals of the American Academy of Political and Social Science*, 458(1), 81-96. <https://doi.org/10.1177/000271628145800107>
63. Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7), 509-533. [https://doi.org/10.1002/\(SICI\)1097-0266\(199708\)18:7%3C509::AID-SMJ882%3E3.0.CO;2-Z](https://doi.org/10.1002/(SICI)1097-0266(199708)18:7%3C509::AID-SMJ882%3E3.0.CO;2-Z)
64. Vafeas, N. (2003). Length of board tenure and outside director independence. *Journal of Business Finance and Accounting*, 30(7-8), 1043-1064. <https://doi.org/10.1111/1468-5957.05525>
65. Van der Meer-Kooistra, J., & Zijlstra, S. M. (2001). Reporting on intellectual capital. *Accounting, Auditing & Accountability Journal*, 14(4), 456-476. <https://doi.org/10.1108/09513570110403461>
66. Veltri, S., & Mazzotta, R. (2016). The association of board composition, intellectual capital and firm performance in a high ownership concentration context: Evidence from Italy. *International Journal of Business and Management*, 11(10), 317. <https://doi.org/10.5539/ijbm.v11n10p317>
67. Volkov, D., & Garanina, T. (2007). Intangible Assets: Importance in the Knowledge-Based Economy and the Role in Value Creation of a Company. *Electronic Journal of Knowledge Management*, 5(4), 539-550. Retrieved from <https://academic-publishing.org/index.php/ejkm/article/view/806>
68. Wang, M. C. (2013). Value relevance on intellectual capital valuation methods: The role of corporate governance. *Quality and Quantity*, 47(2), 1213-1223. <https://doi.org/10.1007/s11135-012-9724-1>
69. Wicaksono, A. P. N. (2022). Gender Diversity, Financial Expertise, CEO Duality and Firm Performance. *Jurnal Ilmiah Bisnis Dan Ekonomi Asia*, 16(1), 1-14. <https://doi.org/10.32815/jibeka.v16i1.473>
70. Wu, M.-F., Lee, Y.-J., & Wang, G.-L. (2012). To verify how intellectual capital affects organizational performance in listed Taiwan IC design companies with considering the moderator of corporate governance. *Journal of Global Business Management*, 8(1), 20-32. Retrieved from <https://www.proquest.com/openview/42ec005e173c88ba2656f05110721ccc/1.pdf>
71. Zerenler, M., & Gozlu, S. (2008). Impact of Intellectual Capital on Exportation Performance: Research on the Turkish Automotive Supplier Industry. *Journal of Transnational Management*, 13(4), 318-341. <https://doi.org/10.1080/15475770802561680>

Influence of Bank-Specific and Macroeconomic Factors on the Profitability of Indian Commercial Banks

Sathish Kotte*, Irala Lokanandha Reddy**
and Srinivas Bolagani***

The study examines the impact of bank-specific and macroeconomic factors on the profitability of Indian scheduled commercial banks. The analysis is based on the panel data of 71 scheduled commercial banks in India for a period of 15 years. Traditionally, banking performance is measured by return on assets, and factors such as bank size, operating efficiency, credit risk, Non-Performing Assets (NPA), Ratio of Interest Income (RII), cost of funds, capital ratio, deposit ratio, ratio of priority sector lending, liquidity and asset management are used as bank-specific factors. GDP, inflation, interest rate, demonetization and financial crisis are used as macroeconomic factors. Linear regression model is used with pooled, fixed and random effect methods. The results show that bank-specific factors such as operating efficiency, NPA and RII have a statistically negative impact on ROA, while asset management has a favorable influence. In terms of the effect of macroeconomic determinants, the results show that GDP, interest rate, demonetization and financial crisis have a negative effect, while inflation is coefficiently negative but has an insignificant impact on ROA.

Introduction

The financial sector is essential for the growth of a country's economy. Among the various financial institutions, the banking industry is broadly divided into three categories in India: public sector banks, private sector banks and foreign banks. In addition, 80 regional rural banks are operating in India. The banks in the country are monitored and governed by the Reserve Bank of India (RBI). The first bank to be established in India was the Bank of Hindustan (1770) which became defunct in 1832. The State Bank of India, which is now the largest commercial bank in the country, descends from the Bank of Calcutta which was founded in 1806. In 1969, all the major banks in the country were nationalized. The idea was to maximize the profit of public sector banks and make them competitive. After the

* Research Scholar, School of Management Studies, University of Hyderabad, Hyderabad, Telangana, India.
E-mail: kotte.sathish51@gmail.com

** Associate Professor, School of Management Studies, University of Hyderabad, Hyderabad, Telangana, India; and is the corresponding author. E-mail: dr.iralala@gmail.com

*** Research Scholar, School of Management Studies, University of Hyderabad, Hyderabad, Telangana, India.
E-mail: svas.bolagani@gmail.com

Impact of Corporate Governance and Intellectual Capital on Financial Performance : A study of Commercial Banks in India

by Sathish Kotte

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Nurlan Orazalin, Monowar Mahmood. "The financial crisis as a wake-up call: corporate governance and bank performance in an emerging economy", Corporate Governance: The international journal of business in society, 2019

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Pendo Shukrani Kasoga. "Does investing in intellectual capital improve financial performance? Panel evidence from firms listed in Tanzania DSE", Cogent Economics & Finance, 2020

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Ranjith Appuhami, Mohammed Bhuyan. "Examining the influence of corporate governance on intellectual capital efficiency", Managerial Auditing Journal, 2015

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Ojeka Aanu, Iyoha Odianonsen, Obigbemi Foyeke. "Effectiveness of Audit Committee and Firm Financial Performance in Nigeria: An

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