

CAPITAL UNIVERSITY OF SCIENCE AND
TECHNOLOGY, ISLAMABAD



**Managerial Efficiency and Firm
Performance Nexus Through Earning
Quality: Moderating Role of Corporate
Governance**

by

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**Managerial Efficiency and Firm Performance
Nexus Through Earning Quality: Moderating
Role of Corporate Governance**

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Dedicated to my beloved Parents



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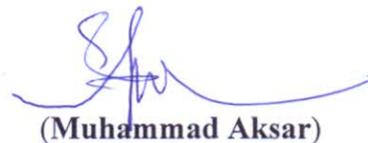
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List of Publications

It is certified that following publication(s) have been made out of the research work that has been carried out for this thesis:-

1. Aksar, M., & Ahmed, J. (2022). Does Managerial Behaviour Matter? Evidence from Emerging Economies. *Global Business Review*, 09721509221109054.

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Abstract

The study tried to pinpoint the impact of managerial efficiency on firm performance through earnings quality and the moderating role of corporate governance. The study also tried to differentiate the significant effect of managerial efficiency permanency and short-term managerial efficiency on firm performance. Managerial efficiency has been measured by using data envelopment analysis (DEA) on an input-output basis. By using the data envelopment analysis (DEA), firm efficiency has been captured and afterward, firm efficiency has been taken as a function of firm size, market share of company, firm age, business segment, and foreign currency translation. This function regressed and residual values have been used as a proxy for managerial efficiency. The study also used the control variables at the firm level (Firm size, firm age, sale growth, sale volatility, financial slack, leverage) country-level governance, and macro-economic variables (Exchange rate, Interest rate, GDP growth, and FDI).

The panel data has been collected from 492 firms of non-financial sectors for the period of 11 years (2009-2019) in the context of emerging economies (Pakistan, India, and Bangladesh). System Generalized Method of Moments (GMM) has been applied for analysis purpose. The results of the study are the addition to the existing body of knowledge that how managerial efficiency affects the firm performance through earnings quality. The study also added the literature about investigating the moderating role of corporate governance in this relationship in the context of emerging economies. The results are indicating that managerial efficiency has a positive influence on return on assets in the context of all emerging economies whether consider individually or collectively. Moreover, the results are further showing that in the case of Bangladesh and the pooling of companies from all selected countries a positive impact of managerial efficiency on Tobin's Q has been reported, but a negative influence on Tobin's Q in the context of Pakistan and India is reviewed. The results are also showing that managerial efficiency permanency has a significantly different influence on firm performance as compared to managerial efficiency for a short run. Moreover, the corporate governance measured by the board structure index improves the relationship between managerial

efficiency and firm performance in the context of all emerging economies. The outcome of the study is also showing that earnings quality mediates in the relationship between managerial efficiency and firm performance.

The results of the study provided guidelines for policymakers that how corporate governance in emerging economies is effective in improving firm performance. Moreover, the study is also helpful for creditors and loan providers to scrutinize managerial efficiency, corporate governance, earnings quality, and firm performance before supplies of raw materials on credit and granting the loan. The study is also an addition in existing literature regarding managerial efficiency permanency, which further open the doors to future research.

Key words: Managerial Efficiency, Managerial Efficiency Permanency, Earnings Quality, Corporate Governance Index, Firm Performance, Data Envelopment Analysis.

Contents

Author's Declaration	v
Plagiarism Undertaking	vi
List of Publications	vii
Acknowledgement	viii
Abstract	ix
List of Tables	xv
Abbreviations	xvii
1 Introduction	1
1.1 Theoretical Background with Respect Under Pinning and Supportive Theories	5
1.1.1 Agency Theory	5
1.1.2 Signaling Theory	6
1.1.3 Stewardship Theory	7
1.1.4 Stakeholder Theory	8
1.1.5 Resource Based View Theory	9
1.2 Research Gap	9
1.3 Problem Statement	12
1.4 Research Questions	14
1.5 Objectives of the Study	14
1.6 Significance of the Study	14
1.6.1 Theoretical Significance	15
1.6.2 Contextual Significance	15
1.6.3 Practical Significance	15
1.7 Country Wise Corporate Governance	16
1.7.1 Corporate Governance in Pakistan	17
1.7.2 Corporate Governance in India	18
1.7.3 Corporate Governance in Bangladesh	19

1.8	Organization of the Study	19
2	Theoretical Background and Literature Review	21
2.1	General Background of the Conceptual Framework	21
2.2	Managerial Efficiency and Firm Performance	25
2.3	Managerial efficiency , Corporate Governance, and Firm Performance	27
2.3.1	Corporate Board Structure	31
2.3.2	Role of Board Independence	32
2.3.3	Role of Board Size	34
2.3.4	Role of Board Meetings	35
2.3.5	Construction of Corporate Governance Index	37
2.3.6	Moderating Role of Corporate Governance in the Relationship Between Managerial efficiency and Firm Performance	37
2.4	Managerial efficiency Permanency and Firm Performance	39
2.5	Managerial efficiency , Earnings Quality, and Firm Performance	42
2.5.1	Impact of Managerial efficiency on Earnings Quality	44
2.5.2	Impact of Earnings Quality on Firm Performance	46
2.5.3	Mediating Role of Earnings Quality in Relationship Between Managerial Efficiency and Firm Performance	48
2.6	Control Variables and Firm Performance	50
2.6.1	Firm-specific control variables	50
2.6.2	Country Level Control Variables	52
3	Data and Methodology	55
3.1	Selection of Countries	55
3.2	Selection of Companies	56
3.3	Source, Type, and Period of Data	57
3.4	Research Models	57
3.4.1	Moderating Role of Corporate Governance in a Relationship of Managerial Efficiency with Firm Performance	58
3.4.2	Impact of Managerial Efficiency Permanency on Firm Performance	59
3.4.3	Mediating Role of Earnings Quality in a Relationship of Managerial Efficiency with Firm Performance	60
3.4.3.1	Impact of Managerial Efficiency on Earnings Quality	60
3.4.3.2	Impact of Earning Quality on Firm Performance	61
3.4.3.3	Impact of Managerial Efficiency on Firm Performance	61
3.4.3.4	Impact of Managerial Efficiency and Earning Quality on Firm Performance	61
3.5	Measurement/Proxies of variables	62
3.5.1	Measurement of Financial Performance (Dependent Variable)	62

3.5.2	Measurement of Managerial Efficiency (Independent Variable)	64
3.5.3	Measurement of Managerial Efficiency Permanency (Independent Variable)	66
3.5.4	Measurement of Corporate Governance Index through PCA (Moderating Variable)	67
3.5.5	Measurement of Earning Quality (Mediating Variable)	69
3.6	Control Variables	71
3.6.1	Firm-Specific Control Variables	71
3.6.2	Country Level Control Variables	72
3.7	Statistical Techniques	75
3.8	Descriptive Statistics	75
3.8.1	Correlation Analysis	76
3.8.2	System Generalized Methods of Moments (GMM)	76
4	Results and Discussion	78
4.1	Descriptive Statistics	78
4.1.1	Descriptive Statistics in Pakistani Context	78
4.1.2	Descriptive Statistics in Indian Context	80
4.1.3	Descriptive Statistics in the Bangladeshi Context	81
4.1.4	Descriptive Statistics in Context of Pooling of All Companies from Pakistan, India, and Bangladesh	83
4.2	Correlation Analysis	85
4.2.1	Correlation Analysis in the Context of Pakistan	85
4.2.2	Correlation Analysis in the Context of India	85
4.2.3	Correlation Analysis in the Context of Bangladesh	87
4.2.4	Correlation Analysis in Context of Combined Country	89
4.3	Results of Panel Unit Root Test	90
4.4	Test for Endogeneity	91
4.5	Role of Corporate Governance as a Moderator in a Relationship of managerial efficiency with Firm Performance	92
4.5.1	Moderating Role of Corporate Governance in a relationship of managerial efficiency with Firm Performance (ROA)	92
4.5.2	Moderating Role of Corporate Governance in a relationship of managerial efficiency with firm performance (TQ)	95
4.6	Impact of managerial efficiency Permanency on Firm Performance	100
4.6.1	Impact of managerial efficiency Permanency With Firm Performance (ROA)	101
4.6.2	Impact of managerial efficiency Permanency with firm performance (TQ)	103
4.7	Mediating Role of Earnings Quality in a Relationship of managerial efficiency with Firm Performance	105
4.7.1	Mediating Role of Earnings Quality Between managerial efficiency and Firm Performance in the Context of Pakistan	106
4.7.2	Mediating Role of Earnings Quality Between managerial efficiency and Firm Performance in the Context of India	110

4.7.3	Mediating Role of Earnings Quality Between managerial efficiency and Firm Performance in the Context of Bangladesh	115
4.7.4	Pooling of the Companies from Emerging Countries (Combined Results)	119
4.8	Robustness of the Results	125
5	Conclusion, Implications, and Future Aspects of Research	128
5.1	Conclusion	128
5.2	Main Findings of the Study	130
5.2.1	Impact of Managerial Efficiency on Firm Performance	130
5.2.2	Moderating Role of Corporate Governance in the Relationship Between Managerial Efficiency and Firm Performance	131
5.2.3	Impact of Managerial Efficiency Permanency on Firm Performance	133
5.2.4	Mediating Role of Earnings Quality in the Relationship Between Managerial Efficiency and Firm Performance	134
5.3	Summary of the Testing of Hypothesis	135
5.4	Implications of the Study	136
5.5	Limitations of the Study	138
5.6	Future Aspects of the Study	138
	Bibliography	140

List of Tables

3.1	Summary for Inputs and Outputs Used in Equation 3.12	65
3.2	Summary for variables will be used in Equation No. 3.13	66
3.3	Summary of the Measurement of Variables	73
4.1	Descriptive Statistics in the Pakistani Context	79
4.2	Descriptive Statistics in Indian Context	80
4.3	Descriptive Statistics in the Bangladeshi Context	82
4.4	Descriptive Statistics in Context of Combine Countries	83
4.5	Correlation Analysis Pakistani Context	86
4.6	Correlation Analysis Indian Context	87
4.7	Correlation Analysis Bangladeshi Context	88
4.8	Correlation Analysis in Context of Combined Countries	89
4.9	Results of Panel Unit Root test	90
4.10	Test for Endogeneity	91
4.11	Moderating Role of Corporate Governance in a relationship of managerial efficiency with Firm Performance (ROA)	93
4.12	Moderating Role of Corporate Governance in a Relationship of managerial efficiency with Firm Performance (TQ)	96
4.13	Impact of managerial efficiency Permanency on Firm Performance (ROA)	102
4.14	Impact of managerial efficiency Permanency on Firm Performance (TQ)	104
4.15	Mediating Role of ERQ in Relationship Between MB and ROA in the Context of Pakistan	107
4.16	Mediating Role of ERQ in Relationship Between MB and Tobin's Q in Context of Pakistan	109
4.17	Mediating Role of ERQ in Relationship between MB and ROA in the Context of India	112
4.18	Mediating Role of ERQ in Relationship between MB and Tobin's Q in the Context of India	113
4.19	Mediating Role of ERQ in Relationship between MB and ROA in the Context of Bangladesh	116
4.20	Mediating Role of ERQ in Relationship between MB and Tobin's Q in the context of Bangladesh	118
4.21	Mediating Role of ERQ in Relationship between MB and ROA in Context of Pooling of Companies from Selected Countries	120

4.22	Mediating Role of ERQ in Relationship between MB and Tobin's Q in Context of Pooling of Companies from Selected Countries . . .	122
4.23	Mediating Role of ERQ in Relationship Between MB and Tobin's Q in Context of Pooling of Companies from Selected Countries by Applying 2 Stage Least Square (2SLS)	126
5.1	Summary of Testing of Hypothesis	135

Abbreviations

AFC	Asian Financial Crisis
Bind	Board Independence
BM	Board Meetings
BRICS	Brazil, Russia, India, China and South Africa
BS	Board Size
Bseg	Business segment
CA	Current Assets
CCon	Country level control variables
CGI	Corporate Governance Index
CGS	Cost of Goods Sold
CL	Current Liabilities
COC	Control of Corruption
DA	Depreciation and Amortization
DEA	Data Envelopment Analysis
ER	Exchange Rate
Fage	Firm Age
FCF	Free Cash Flow
FCon	Firm level control variables
FDI	Foreign Direct Investment
FP	Firm Performance
ERQ	Earnings Quality
Fsize	Firm Size,
GDPG	Gross Domestic Product Growth
GEF	Government Effectiveness

GFC	Global Financial Crisis
GI	Governance Index,
GMM	Generalized Method of Moments
IR	Interest Rate,
Lev	Leverage,
MB	Managerial Efficiency
MBP	Dummy of Managerial Efficiency Permanency
MBPF	Managerial Efficiency Permanency
N-11	Next Eleven Countries
OCF	Operating Cashflow
PAC	Political Stability and Violence
PCA	Principal Component Analysis
PPE	Property Plant and Equipment
REGQ	Regulatory Quality
ROA	Returns on Assets
RUL	Rule of Law
SAGE	Selling, Administrative and General Expenses
SG	Sale Growth,
Slack	Financial Slack,
SV	Sale Volatility,
TQ	Tobin's Q
VAC	Voice and Accountability
WGI	Worldwide Governance indicators
WRDS	Wharton Research Data Services
ΔRev	Change in Revenue

Chapter 1

Introduction

During all times, struggles have been made to improve firm performance, which is necessary to achieve the firm's ultimate objective, i.e., "maximization of shareholders' wealth." managerial efficiency plays an essential role in achieving this objective as managers have their vigilant watch on investment opportunities and healthy projects for the investment purpose, ultimately contributing to maximizing the shareholders' wealth (Naeem and Li, 2019). Because of financing restrictions Hubbard (1998) and capital market frictions Chen et al. (2017), the managers are reluctant to invest in all value-maximizing investments, which also impact the performance of the business.

Past studies provide ample evidence for effective implementation of financing as well as investing strategies, and accurate estimation of future earnings depends upon the managers' ability (Bertrand and Schoar, 2003; Bamber et al., 2010; Holcomb et al., 2009; Baik et al., 2011; Demerjian et al., 2012). Ultimately, managers with better future forecasting skills contribute positively to the value and performance of a firm (Chemmanur and Paeglis, 2005; Goodman et al., 2014).

In both neoclassical finance and behavioral finance paradigms, it is assumed that managers are entirely able to maximize the shareholders' wealth. In neoclassical finance, the managers are rational while making the corporate decisions, but in behavioral finance paradigm, managers make the corporate decisions based on emotions and cognitive ability (Abdeldayem and Sedeek, 2018). However, the

corporate decisions of both types of managers influence the firm performance. Theoretical past studies enclosed the influence of managerial efficiency on corporate decisions and discussed that heterogeneous managerial efficiency brings heterogeneity in corporate financing decisions [Heaton \(2002\)](#); [Malmendier and Tate \(2005\)](#); [Hackbarth \(2009\)](#). Statistical evidence supports theoretical studies that managerial efficiency influences corporate decisions [Abdeldayem and Sedeek \(2018\)](#), leading to corporate performance ([Kaplan et al., 2012](#)). According to [Martin and Staines \(2008\)](#) that the key reason for the firm failure is the lacking managerial skills, experience, and personal qualities. The continuity of managerial efficiency in terms of utilization of resources in an effective way is an essential factor for a company to sustain itself in long term. Therefore, managerial efficiency permanency is also necessary for the firm performance for long-run sustainability.

Past studies highlighted the relationship between management characteristics (CEO attributes, management overconfidence, financial expertise) and earnings quality that management contributes to earnings quality, which influence the financial reporting ([Francis et al., 2008](#)). The balancing of the information among the users of the information reduces the risk of the investors as a precarious situation is converted into certainty up to some extent and then the investors make their investment decisions without fear. On the other side, in business due to the balance of information, the confidence of the investor increased towards better future outcomes and they invested in the business and business get financing and avails the investment opportunities, therefore, removal of information asymmetric by improving earnings quality minimize the agency issue.

[Demerjian et al. \(2013\)](#) reported that managerial efficiency improves the earning quality, which is effectively contribute in financial statements and finally it helps the investor to make the investment decisions. Earnings are the primary component used in investors' and analysts' valuation models, therefore businesses with low earning quality typically have higher capital expenses ([Francis et al., 2005](#)). Earnings quality is also a key factor in minimizing the asymmetric information between management and shareholders ([Bushman and Smith, 2001](#)). Information asymmetry is a cause to create an issue between managers and shareholders due to which the cost of financing and project selection is increased [Myers and Majluf](#)

(1984) due to which managers often cannot gain from investment opportunities [Benlemlih and Bitar \(2018\)](#), which ultimately affects the firm performance. Financial reporting provides a platform to shareholders by informing them about past operations and management's future financial and investing decisions ([Boubaker et al., 2018](#)). This argument suggests that earnings quality is one of the solutions for improving firm performance by minimizing information asymmetric ([Biddle et al., 2009](#); [García-Meca et al., 2015](#); [Shahzad et al., 2020](#)).

Although managers are the most important factor to contribute to firm performance by improving earning quality, the agency issue is prominent due to managers' tendency towards their interest while utilizing the resources of a company, which causes the loss of the actual soul of shareholders' interest ([Jensen, 1986](#)). [Jensen and Meckling \(1976\)](#) put out the idea of agency issue, which clarifies that all associated parties, such as managers, stockholders, creditors, loan providers, and others, operate in their self-interests. In businesses, the owners choose the managers to use their resources to their most significant advantage to increase their wealth, for which they are paid ([Jensen and Meckling, 1976](#)). Management work in their interests and has access to more information than shareholders; hence there may be a conflict between shareholders and managers ([Bosse and Phillips, 2016](#)). When both parties have different goals in mind, the agency problem occurs. Investors (the principals) put money into a company in the hopes that the managers (the agents) would use it to fund the most outstanding initiatives, maximizing their wealth, but the managers will have their interests. Thus, a disagreement known as an agency problem will develop between the two parties.

Asymmetric information view explains why managers act in the best interests of shareholders and on the other hand, the agency perspective suggests that managers behave in their best interests ([Chen et al., 2011](#)). Managers seek to take advantage of investment possibilities that have their welfare and are not in shareholders' best interests, according to ([Jensen and Meckling, 1976](#)). The studies reported that managers are key persons in the financial reporting process and influence earnings by operating decisions ([Choi et al., 2015](#)). Even with solid managerial practices and financial disclosure, a system is needed to minimize the agency issue between management and shareholders. This mechanism is called corporate governance,

and it enables managers to be held accountable and compelled to act in the best interests of shareholders.

Monitoring the managers' actions through an effective corporate governance structure helps to reduce agency concerns ([Shahwan and Habib, 2020](#)). Board is considered an essential factor that monitors and mitigates the tendency of management's self-interest ([Charreaux et al. \(1998\)](#)), and this self-interest ruins the firm's value ([Shin et al., 2020](#)). Members of the board directly impact management's choices about business operations, finances, and investment activities. [Shin et al. \(2020\)](#), so corporate governance influences managerial efficiency. In corporate governance, the board has the authority to reject the ineffective decisions of the managers, and the board is also responsible for monitoring, supervising, and counseling managers on how to make good decisions ([Weisbach, 1988](#)). An effective corporate governance mechanism is a significant factor that can be considered to mitigate agency issues and improve firm performance. So, corporate governance modifies the relationship of managerial efficiency with firm performance; therefore, one of the study's objectives is to check out the moderating role of corporate governance in the relationship between managerial efficiency and firm performance.

In a nutshell, the manager is considered a more critical component and driving force to achieve the firm's objective, i.e., maximization of the shareholders' wealth. However, due to agency issues and after the Asian and global financial crises of 2002 and 2008, respectively, the debate on earnings quality, corporate governance, application of accounting standards, and accountability started [Al-Sartawi \(2013\)](#); [Alsartawi \(2018\)](#) is emerged as a hot issue, which ultimate purpose is to reduce the agency issue by protecting the shareholders' rights. Resultantly, the economies are engaged more in rethinking and refining the rules and regulations to ensure that companies have a more effective internal control system and timely financial reporting ([Ramadhan, 2014](#)). Therefore, the main questions and objectives of the study are to check how corporate governance strengthens the relationship between managerial efficiency and firm performance by monitoring the managers and how earnings quality mediates between managerial efficiency and firm performance.

However, another issue has been reviewed and emerged during the research, which is the ineffectiveness of corporate governance in emerging economies due to the

presence of weak and complicated information systems [Zhang et al. \(2017\)](#); because of that, the existence of asymmetric information is expected in emerging economies ([Choe et al., 2005](#)). Therefore, the study is required to conduct in the scenario of emerging economies, so this study was planned to conduct in the scenario of south Asian lower-income emerging economies (Pakistan, India, and Bangladesh)

1.1 Theoretical Background with Respect Under Pinning and Supportive Theories

There are two underpinning theories related to agency issues, corporate governance, and earnings quality : agency and signaling theories. A single governance theory is insufficient to adequately characterize the link between the board of directors and business performance since it is incredibly diversified and complicated ([Nicholson and Kiel, 2007](#)). However, four other supportive theories have also been explained in this section: stewardship theory, stakeholder theory, Echelon theory, and Resource-based view theory.

1.1.1 Agency Theory

The conflict between shareholders (Principals) and management is explained by agency theory (the agents). [Jensen and Meckling \(1976\)](#) put out this idea, which clarifies that all associated parties, such as managers, stockholders, creditors, loan providers, and others, operate in their self-interests. In businesses, the owners choose the managers to use their resources to their most significant advantage to increase their wealth, for which they are paid ([Jensen and Meckling, 1976](#)). Because managers represent their interests and access more information than shareholders, there may be a conflict between the shareholders and the management ([Bosse and Phillips, 2016](#)). When both parties have different goals in mind, the agency problem occurs. Investors (the principals) put money into a company in the hopes that the management (the agents) would use it to fund the most significant initiatives, maximizing their wealth while also looking out for their interests. Thus, a conflict will arise between both parties called an agency issue.

Consequently, a strong board is needed to safeguard shareholders' rights (Opler et al., 1999). The agency issue may be reduced by keeping an eye on the managers' actions through a robust corporate governance structure (Shahwan and Habib, 2020). On the other hand, a better quality of earnings is required to mitigate the agency issue. A significant aspect of reducing the informational disparity between management and shareholders is earnings quality, which contributes in earnings quality (Bushman and Smith, 2001). Information asymmetry may be reduced by disclosing and highlighting the projects' positive Net Present values to the investors (Biddle et al., 2009). The demand for earnings quality is created due to conflict between parties and the problem of information asymmetric.

Moreover, effective corporate governance is also required to minimize agency issues. According to the shareholder model, founded on agency theory, corporate governance is a device used to reduce the agency problem between a principal and an agent (Maxfield et al., 2018). Therefore, the underpinning theory of the study to minimize the agency issue is agency theory, which depicts the significance of both corporate governance and earnings quality in mitigating the agency issue, enhancing the firm performance through better governance, and minimizing the uncertainty. The theory helped in the study to create the link between managerial efficiency and firm performance with moderating role of corporate governance and mediating role of earnings quality . The theory elaborates the agency issue is existed due to the personal interest of the managers and due to manipulation of managers in financial reporting, therefore a mechanism is essential to monitor the managers vigilantly to protect the shareholders' rights, which corporate governance, therefore, the theory also helpful for the study to create the moderating role of corporate governance in the relationship between managerial efficiency and firm performance.

1.1.2 Signaling Theory

Signaling theory explains when two parties (Managers and Shareholders) have information asymmetry, then how a manager should send his message to minimize the information asymmetry (Bhattacharya, 1979; Miller and Rock, 1985). Therefore, the managers improve the earnings quality to disseminate a signal for

mitigation of information asymmetry. [Brigham and Houston \(2011\)](#) elaborated that signal theory gives the signal on the behavior of the management to the investor about managerial strategies and direction for prospects of the corporation. It also shows that signal is in the form of information about the future growth and performance of the company, and this Theory also deals with asymmetric information, which means if one party has more information than the other. earnings quality matters much more for the investors as this discloses adequate information for investors for the decisions of their future investment, which ultimately affect the firm performance ([Kim et al., 2009](#)). Additionally, from the perspective of the signaling theory ([Spence, 1973, 2002](#)), higher-quality accounting data offers a more accurate indication of underlying performance, and companies with a better company operating performance are anticipated to have more incentives to provide earnings data of a higher quality to show the actual status of the firm and thereby avoid adverse selection.

Thus, signaling theory elaborates that those managers improve the earnings quality to disseminate a signal in the market for mitigation of asymmetric information, which will reduce the idiosyncratic risk of the investors, which helps improve the firm performance. This discussion shows that earnings quality is a mediator between managerial efficiency and firm performance. Therefore, this theory is helpful to create the mediating link between earnings quality and firm performance.

1.1.3 Stewardship Theory

The stewardship theory is an alternative to the agency theory proposed by [Donaldson and Davis \(1989\)](#), which explains that a manager is a steward and wants to perform the best with his inner feelings to do his best to safeguard the rights of the shareholders. The stewardship idea, part of corporate governance, is an alternative normative framework to agency theory. The stewardship theory, which explains the strong relationship between employee pleasure and business performance, states simply that managers would spend their resources properly if left to their own devices. Thus, the managers work to maximize shareholders' wealth with the feeling that they are accountable for their work. [Davis et al. \(1997\)](#) discussed that stewards (managers) are eager to meet the organizational objectives

and add the firm value by serving it. Therefore, the study takes the concept of inner feeling of managers to account for their deeds from this theory and applies it to managers who perform efficiently for value maximization by investing in worthwhile projects. So, the managers' efficiency improves the firm performance, and their efficiency permanently affects the firm performance for a long time.

1.1.4 Stakeholder Theory

Stakeholders who influence the firm's value are categorized into internal and external stakeholders ([Freeman, 2010](#)). The portfolio of internal stakeholders includes directors, employees, managers, and all others involved in the governance structure. External stakeholders are suppliers, customers, distributors, Govt., regulatory bodies, and all others linked with a firm's working environment. [Freeman \(2010\)](#) discussed that a corporation is responsible for governing in a manner in which the stakeholders' interests are protected, and if a firm fails to do so, it goes down and loses its values. According to [Donaldson and Preston \(1995\)](#), Stakeholder management calls for simultaneous consideration of the legitimate interests of all relevant stakeholders, both in the formulation of organizational structures and general policies as well as in the making of specific decisions.

Stakeholder theory argues that a board should function to monitor the management and safeguard stakeholders' interests ([Heath and Norman, 2004](#)). Therefore, the stakeholder theory explains that corporate governance is essential in protecting all stakeholders' rights by improving firm performance. Resultantly, it reduces the agency issues between managers and shareholders and may modify the relationship between managerial efficiency and firm performance. The theory helps the study that how managers and corporate governance is effective for firm performance and both matters are related with the internal stakeholders. Moreover, external level factors including the government level factors and regulatory bodies are also linked with the firm performance, therefore, the study also incorporated country level governance, economic growth, interest rate and exchange rate as control variables.

1.1.5 Resource Based View Theory

The idea of resource-based perspectives clarifies the importance of managers (Holcomb et al., 2009). This Theory explains that a firm's ability to maintain its competitive edge depends on its managers' capacity to use its resources efficiently (García-Meca and García-Sánchez, 2018). Managers make judgments based on their experiences and formal education in a particular field, which further contributes to the organization's success (Collins et al., 2009). Thus, managerial educational efficiency directly impacts the company's success, including shareholder return, firm growth, and innovation. This Theory explains how effectively the managers permanently use the organization's resources for long-term competitive advantage by investing in worthwhile projects. Therefore, managerial efficiency permanency measured on an input-output-based leads to firm performance, and firm performance, further contributing to competitive advantage in the long term.

1.2 Research Gap

After reviewing the theories and past literature, the following research gap has been identified.

The past studies indicates that managerial efficiency significantly contributes in improving the information quality and in financial performance (Baik et al., 2011; Demerjian et al., 2013; Yung and Chen, 2018). The managerial efficiency also affects the innovative success of corporate (Chen et al. (2015), investment efficiency Andreou et al. (2017), and cost of debt (Bui et al., 2018). However, the influence of managerial efficiency on earnings quality is studied limitedly. Moreover, the continuity in managerial efficiency is also required to be studied. Therefore, firstly, the study has provided empirical evidence of the relationship between managerial efficiency and firm performance, and afterward, the effect of consistency of managerial efficiency on firm performance has also been tested empirically.

The permanency of positive managerial efficiency is required to utilize resources appropriately and to take competitive advantage. The concept of managerial efficiency permanency has been taken from the study (Jeong et al., 2018; Noor et al.,

2020). Therefore, it is a theoretical and empirical contribution of the study for adding managerial efficiency permanency and its influence on firm performance. The study measured managerial efficiency at the first stage based on data envelopment analysis, which is the input-output-based method. Afterward, by following Jeong et al. (2018), managerial efficiency permanency has been measured by a dummy variable, 1 if managerial efficiency is equal to or more than 3 times over the most recent four years and otherwise 0.

Although managerial efficiency is important to enhance the firm performance, but managers have their own interest due to which agency issue is existed, which is required to address by using a mechanism i.e. corporate governance. Corporate governance is an important mechanism that contributes to firm performance positively and also plays an essential role in mitigating the agency issue between managers and shareholders. One of the main approaches is applying the best corporate governance practices (Shahwan and Habib, 2020). Previous studies investigated the effect of corporate governance to improve firm performance (Vafeas and Theodorou, 1998; Dahya and McConnell, 2007; Dahya et al., 2009; Abdou et al., 2021), however, the empirical investigation of the moderating effect of corporate governance in relationship between managerial efficiency and firm performance is still missing. So, the study is planned to determine how corporate governance moderates the relationship between managerial efficiency and firm performance. Therefore, the best corporate governance practices strengthen the relationship of managerial efficiency with firm performance. To the best of my knowledge, no empirical findings elaborate on how corporate governance influences the link between management conduct and business success.

Third, the literature is available which shows the empirical influence of managerial efficiency in terms of their abilities and utilization of their skills on earnings quality (García-Meca and García-Sánchez, 2018), which further contributes to firm performance (Miller and Piotroski, 2000). Moreover, earnings quality also has an impact on investment efficiency (Biddle et al., 2009), due to which the value of the company is influenced, which ultimately contributes to firm performance. On one side, managerial efficiency influences earnings quality and further leads to firm performance. On another side, managerial efficiency directly affects the firm

performance. So, earnings quality fulfills the conditions of mediating role in the relationship of managerial efficiency with firm performance (Baron and Kenny, 1986). However, no empirical evidence shows how managerial efficiency influences firm performance through earnings quality. On one side, managerial efficiency directly affects the firm performance; on the other hand, it influences firm performance through earnings quality (Demerjian et al., 2013). Therefore, it is required to investigate the empirical mediating role of earnings quality in the relationship between managerial efficiency and firm performance.

Therefore, the study must be conducted to pinpoint the role of earnings quality in the relationship between managerial efficiency and firm performance. So, the study is planned to fill this gap by investigating the impact of managerial efficiency on firm performance in the presence of earnings quality.

Finally, most of the studies focused only on the developed countries while researching managerial efficiency and firm performance. In emerging economies, corporate governance practices are ineffective. The institutional environment in emerging economies is opaque as these economies have fragile and complex information environments Zhang et al. (2017), and information asymmetric in emerging markets is familiar Choe et al. (2005), which does not help in protecting the shareholders' right. Due to market volatility, informational disadvantage, and ineffective corporate governance, investors tend to be risk-averse in emerging economies (Tran, 2020). Thus, emerging economies have weak shareholders' wealth protection rights and a poor information environment, which are required to study to improve firm performance.

Therefore, the study conducted in South Asian lower-income emerging economies (Pakistan, India, and Bangladesh) to capture the moderating role of corporate governance and mediating role of earnings quality in the relationship between managerial efficiency and firm performance. The selection of these three countries is due to the consistency in the corporate ownership structure (Masud et al., 2018). Thus, this study is adding the literature to existing body knowledge while capturing the moderating role of corporate governance and mediating role of earnings quality in the relationship between managerial efficiency and firm performance in the contexts of emerging economies.

1.3 Problem Statement

Managers are critical in achieving the firm's ultimate objectives, i.e., "Maximization of shareholder's wealth". Managers make decisions based on investment efficiency [Quah et al. \(2021\)](#) and managerial practices contribute to firm performance [Nemlioglu and Mallick \(2017\)](#), which ultimately are essential to maximizing the shareholders' wealth. Therefore, it is necessary to inquire about and consider the factors contributing to increasing the firm performance. These factors are classified into internal factors, which are within the ambit of managerial influence, and external factors, which are beyond managerial control ([Naeem and Li, 2019](#)). Rationally, the managers pursue and avail themselves of the investment opportunities, which are value maximizing and contribute to adding value to a firm.

However, scarcity of resources limits the managers' avail of these opportunities ([Naeem and Li, 2019](#)). At this stage, the work of managers starts as they have discretionary powers to use available funds for firm performance, and managerial efficiency matters a lot, contributing to corporate performance and firm growth. However, the actual benefit of better managerial efficiency cannot be attained unless it is permanent. Therefore, not only the managerial efficiency but also its permanency is required to be analyzed to test their effect on firm performance.

Managerial efficiency leads to reporting better quality of information as managers intend to show their efficiency in reports, which further influences their reputation and lowers asymmetric information. One primary purpose for reporting financial information is to efficiently assist capital allocation and improve investment decisions ([Chen et al., 2011](#)). Prior studies suggest that earnings quality reduces the asymmetric information and further helps to resolve the under and over-investment problem ([Biddle and Hilary, 2006](#); [Biddle et al., 2009](#)). Earnings reporting is an independent, verified source of information about the managers' performance to capital providers ([Sloan, 2001](#)). So, firms' approach to financial distress measured by transparent financial reporting is an alarming situation for the future ([Habib et al., 2020](#)). So, managerial efficiency influences the earnings quality, which further contributes to firm performance.

Another problem is agency conflict between managers and shareholders, which occurs due to the managers' self-interest and if one party (Managers) has more information than the other party (Shareholders). Agency issue is prominent due to the tendency of managers towards their interest in making investments, which causes the loss of the actual soul of shareholders' interest [Jensen and Meckling \(1976\)](#); [Jensen \(1986\)](#), which leads to corporate over or under investment and idiosyncratic risk to investors [Chiou and Chang \(2020\)](#) and further affects the firm performance

The agency issue can also be minimized through a strong and effective governance mechanism. [Shahwan and Habib \(2020\)](#) argued that the presence of an independent board of directors and its sub-committees restricts the managers from pursuing their self-interest and improves the firm performance. Protecting owners' and other stakeholders' interests is the prime reason for corporate governance, which contributes to minimizing agency risk ([Srivastava et al., 2019](#)). Corporate governance helps outside investors protect their rights [Shleifer and Vishny \(1997\)](#), and a weak corporate internal control system leads to the firm's failure and gets it into financial distress ([Habib et al., 2020](#)). Therefore, it is required to investigate the moderating role of corporate governance in the relationship of managerial efficiency with firm performance.

Moreover, in many emerging economies, corporate governance practices are ineffective. The institutional environment in emerging economies is opaque as these economies have fragile and complex information environments [Zhang et al. \(2017\)](#), and information asymmetric in emerging markets is familiar [Choe et al. \(2005\)](#), which does not help in protecting the shareholders' right. Due to market volatility, informational disadvantage, and ineffective corporate governance, investors tend to be risk-averse in emerging economies ([Tran, 2020](#)). Thus, emerging economies have weak shareholders' wealth protection rights and a poor information environment, which are required to study to improve firm performance.

Therefore, the main objective of the study is to pinpoint the empirical influence of managerial efficiency and its permanency on firm performance while analyzing financial disclosure quality as a mediator and investigating the moderating role

of corporate governance in the scenario of South Asian lower-income emerging economies (Pakistan, India, and Bangladesh).

1.4 Research Questions

The study is intended to answer the following questions.

1. Whether managerial efficiency influences the performance of a firm?
2. Is there any moderating role of corporate governance in the relationship between managerial efficiency and a firm's performance?
3. Is there any significant difference between the effect of permanent and temporary managerial efficiency on firm performance?
4. Is earnings quality mediating in the relationship of managerial efficiency performance of a firm?

1.5 Objectives of the Study

The main objectives of the study are as follows:

1. To investigate the influence of managerial efficiency on firm performance.
2. To analyze the moderating role of managerial efficiency in a relationship between managerial efficiency and firm performance.
3. To check the significant difference between the effect of permanent and temporary managerial efficiency on firm performance.
4. To check the mediating role of earnings quality in the relationship between managerial efficiency and firm performance.

1.6 Significance of the Study

The significance of the study is classified into theoretical significance, contextual significance, and practical significance.

1.6.1 Theoretical Significance

First, the study adds to the existing body of knowledge relating to agency theory by capturing the moderating effect of corporate governance empirically between management conduct and business performance. The study also adds the literature on the empirical relationship of managerial efficiency with firm performance through earnings quality. The study also provides the empirical evidence of the resource dependency theory that long-term competitive advantage depends upon managerial ability. Hence, the study provides statistical evidence that continuity in managerial efficiency in terms of utilization of resources increases the firm performance more than temporary managerial efficiency in nature.

1.6.2 Contextual Significance

This study aims to empirically investigate the influence of managerial efficiency permanency on firm performance, which will be an attractive area of research for researchers and practitioners in future studies. The study also opens new doors for researchers to conduct their research in the context of the stability of managerial efficiency. The study also highlights the importance of managers in how they are necessary to utilize the resources of the business effectively, and their effective and efficient input is a critical factor in the success of a business. In emerging economies, the corporate governance mechanism and earnings quality are required to investigate as without adequate monitoring of the managers and minimizing the asymmetric information, the achievement of the objective of maximization of shareholders' wealth is questionable. The study adds literature on pinpointing the influence of managerial efficiency and its permanency on firm performance while mediating the effect of earnings quality, moderating the role of corporate governance in this relationship in the Emerging Economies (Pakistan, India, and Bangladesh).

1.6.3 Practical Significance

The results guide policymakers on how corporate governance in emerging economies influences firm performance. The study's finding is also fruitful for management

to make their decisions effectively to enhance the firm performance. Furthermore, the study's outcome also has a guideline for policymakers while formulating the strategy for improvement in firm performance. Additionally, it informs investors of how management employs resources to increase wealth, which adds to their idiosyncratic risk. In addition, the study revealed how corporate governance affects business performance and helps creditors and loan providers evaluate management efficiency in light of future firm success. In the case of lower-income emerging economies in south Asia, the study also suggests that corporate governance mechanisms, particularly board structure, are crucial mechanisms to strengthen the association between management efficiency and business performance. The findings indicate that improving corporate governance mechanisms is necessary, particularly in the case of Bangladesh, to reduce monitoring weaknesses and strengthen the link between managerial conduct and business performance. The study also suggested that south Asian lower-income emerging economies are required to formulate effective corporate governance policies and to enhance the earnings quality, which helps minimize the agency issue between managers and shareholders.

1.7 Country Wise Corporate Governance

Investors provide the finance to the business with the intention that the managers will utilize their investment in their best interest, and future, they will gain a better return on their investment. However, managers sometimes work for their interests because an issue is created between managers and investors, i.e., called agency issues. Increasing transparency through additional disclosures as part of financial reporting requirements and effective corporate governance can increase investor trust in businesses and help align managerial interests with those of the shareholders ([Mishra et al., 2021](#)).

Therefore, a mechanism is required to minimize this agency issue and to protect the shareholders' rights, and that is corporate governance. According to [Shahid and Abbas \(2019\)](#), corporate governance is a "process whereby shareholders attempt to certify that managers of the firms in which they invest provide a sufficient return". Many laws and regulations, including the [Cadbury Report \(1992\)](#), [Organization](#)

for Economic Development (OECD) Code (1999), CLERP 9 ((2001), Ramsay Report (2001), and Sarbanes-Oxley Act (2002), have been established globally to improve the effectiveness of corporate governance (Sobhan, 2021). Practical and powerful corporate governance practices help minimize agency issues and protect the rights of the shareholders, due to which they (shareholders) feel free and safe to invest in capital markets, ultimately leading to the economic growth of flowing capital in capital markets. Moreover, Asian Financial Crisis (AFC-2002) and Global Financial Crisis (GFC-2008) compelled the policymakers to engage their thoughts to improve and implement an effective corporate governance mechanism. In emerging economies, effective and more corporate solid governance is required to protect the shareholders' rights as in these economies because of the weak and complex institutional environment. Therefore, the study selected three south Asian lower-income emerging economies (Pakistan, India, and Bangladesh) to probe the moderating role of corporate governance and mediating earnings quality in the relationship between managerial efficiency and firm performance. Moreover, most companies in these emerging economies listed on the stock exchanges run family-owned businesses.

1.7.1 Corporate Governance in Pakistan

Due to the Security Exchange Commission's efforts, Pakistan's corporate governance structure now complies with international norms. The Security Exchange Commission of Pakistan took a significant step toward corporate governance reforms in 2002. The primary goal of Pakistan's Corporate Governance Code 2002 is to improve financial and other corporate reporting for both state-owned and non-state-owned enterprises (SECP, 2002). Initially, when the operation and enforcement of CG Code 2002 started, there were many criticisms and issues. However, despite these concerns, corporate governance laws have been a significant factor in the emergence of a new study area in Pakistan. Despite these complaints, the "Corporate Governance Code" has been effectively applied, a critical factor at the beginning of a new research project in Pakistan (Shahid and Abbas, 2019). The purpose of issuing corporate code-2002 in Pakistan was to provide a guideline to

the corporations regarding disclosure, board, and audit matters. Moreover, another corporate governance code (CG Code-2012) was issued in 2012 to help Pakistani companies quickly understand the corporate governance mechanism and use corporate governance procedures in a better manner.

In Pakistan, family-owned enterprises are progressively expanding; 60% of the corporations are family-owned, with the other 40% being non-family-controlled (Cheema and Din, 2013). Over the past 20 years, Pakistan's stock market has been growing rapidly, making it a notable developing market, and for financial development, Pakistan has implemented several programs and reforms (Shahid and Abbas, 2019).

1.7.2 Corporate Governance in India

In Indian businesses, high family engagement is prevailed, which lowers the chance of principal-agent conflict but increases the likelihood of principal-principal conflict. Additionally, business groupings are well-established and growing (Shahid and Abbas, 2019). These elements may increase the significance of a board's monitoring and resource dependency roles. Like other emerging economies, India's organizations struggle with family ownership and other types of dominance, like government or foreign investors (Mishra and Kapil, 2018). According to Jameson et al. (2014), founders (families) represent 63.2 (65.5) percent of the boards of Indian companies, and they typically own over 50% of the company's outstanding shares. As a result, India has distinct types of corporate governance difficulties than Anglo-Saxon nations, where the main concern is punishing management that may cease to be accountable to the owners, typically dispersed shareholders.

During the last decade, India promoting major reforms in corporate governance mechanisms to protect the shareholders' rights (Mishra et al., 2021). Initially, the Securities Exchange Board of India (SEBI) introduced clause-49, which revealed the importance of the board's independence. Afterward, the Government of India took another practical step by introducing the Companies Act, 2013, and provisions on corporate governance have been enforced for Indian companies.

1.7.3 Corporate Governance in Bangladesh

Likewise, the other economy, Bangladesh, is also taking practical steps in developing and implementing corporate governance codes, which have been derived from developed economies (Sobhan, 2021). The critical question is still answerable whether Bangladesh can successfully implement the standards acquired from developed nations.

In 2006, Bangladesh issued its first set of corporate governance regulations. Corporate Governance Guidelines (CGG) were unveiled later in 2012. In 2018 a new Corporate Governance Code (CGC) was introduced in Bangladesh. Issuance of all these CG-Codes aims to implement policies and give corporations guidelines to protect the shareholders' rights. It could be different in Bangladesh since the country's corporate governance laws are not particularly well enforced, and many family-owned businesses there might strive to further their interests at the expense of minority shareholders (Fariha et al., 2021). Due to family domination on the board, over 50% of publicly traded corporations do not have an audit committee (Muttakin et al., 2015). According to Bangladesh's Corporate Governance Code, an audit committee is a requirement for all listed businesses (Khan et al., 2013).

Most businesses listed on the country's two leading stock exchange platforms, the Dhaka Stock Exchange and the Chittagong Stock Exchange, are family-owned businesses. This family ownership concentration makes it difficult to implement reasonable, responsible, and transparent corporate governance practices. Huq and Bhuiyan (2012) discussed some issues in Bangladesh like family-controlled businesses, inadequate bankruptcy law, inconsistency among the Accounting Standards, weak regulatory Capital Markets, Companies Act, and Security Exchange Commission requirements. Therefore, an effective and powerful corporate governance mechanism is required to protect the shareholders' rights in Bangladesh.

1.8 Organization of the Study

The second chapter of the research proposal is about the literature review, development of research hypotheses, and theoretical framework. The third chapter is

about the research's proposed methodology, including measurement of variables, source of data, type of data, statistical measurement of research model, and application of appropriate statistical techniques. Chapter 4 is on results, interpretation, and discussion of results. The final chapter concludes the research, policy implications, limitations, and future directions of the study.

Chapter 2

Theoretical Background and Literature Review

This chapter is concerned with the general background of the conceptual framework, literature review, the establishment of the hypotheses, and the demonstration of the study's conceptual framework.

2.1 General Background of the Conceptual Framework

To accomplish the ultimate goal of the business, which is the "maximization of shareholders' wealth," the thoughts of the management are constantly engaged in a struggle to enhance the company's performance.

The management team's skills are undoubtedly some of the most critical human resources influencing the company's value, theoretically and practically. With their professional and academic expertise, effective managers assure the optimal use of the company's limited resources in complex environments. Additionally, they employ their knowledge and expertise to achieve sustainable growth. The major forces behind the best use of resources are the manager's personality and skills. Emotional intelligence is one personality attribute that enables someone to handle their emotions and those of others correctly and understand how to deal with them. The value of professional human resources is increased by the scarcity

of resources in growing market environments, such as money, technological know-how, infrastructure, and an educated labor force. By carefully using talented human resources, businesses may increase productivity to gain competitive advantages and experience long-term market success (Inam Bhutta et al., 2021). According to Tran (2020), Human capital is crucial for attaining sustained success, especially in emerging economies. Corporate managers contribute significantly to a company's production process as one sort of labor input (Jensen and Meckling, 1976). They coordinate company resources, carry out business operations, and take a range of choices about things like money, strategy, and investments (Fama and Jensen, 1983). An essential strategic objective is to ensure the long-term viability and financial performance of any business Shaw and Harrald (2003). Since short-term efforts are not long-lasting, managers' abilities and the permanent application of their abilities and efforts are necessary to improve company performance over the long run.

Superior managers have a deeper understanding of their industry, which results in more accurate estimations and judgements, and ultimately higher quality earnings (Demerjian et al., 2013). With their operational choices, managers have a significant role in the financial reporting process and have a significant impact on earnings (Choi et al., 2015). Bertrand and Schoar (2003) documented the influence of managers while making the choices in research and development expenditures and acquisitions, which further effect the earnings quality. Earnings quality helps to minimize the effect of asymmetric information and to improve the investment efficiency, which ultimately influence the firm performance (Lambert et al., 2007).

The minimization of the asymmetric information by voluntary disclosure decreases the cost of capital (Botosan (1997); Easley and O'hara (2004); Lambert et al. (2007), which further increases the firm performance and contributes to stock liquidity (Diamond and Verrecchia, 1991; Healy et al., 1999). Voluntary disclosures may make information public that the company would otherwise keep away from rivals, potential competitors, regulators, clients, and suppliers, and this information helps the investors to make their investment decisions (Enache and Hussainey, 2020). Therefore, the improved earnings quality reduces the risk of the investors and helps them invest in the business for which they can predict the performance

easily, further improving the firm performance.

Although earnings quality is an important factor on other hand managers are responsible to disclose this information to the stakeholders. Managers that have fiduciary responsibility oversee the businesses directly and utilize the resources in operating the business provided by shareholders and other interested parties; at the end managers reports and disclose all information to all stakeholders regarding the output of the business, which help the investors for decision making (Im and Nam, 2019). The earnings quality matter a lot as its effectiveness further impacts the cost of capital, which leads to firm value (Freestone and McGoldrick, 2008). On the other hand, managers have an interest due to opportunistic behavior and manipulate the information to conceal the reality, which exploits the shareholders' rights (Donnelly and Mulcahy, 2008). As a result, misalignment and conflict exist between shareholders and managers and it calls the agency issue. Therefore, vigilant monitoring of managers' activities is essential to mitigate the agency issue and to achieve the objective of maximization of shareholders' wealth (Yakob and Abu Hasan, 2021). According to agency theory, corporate governance is a mechanism that monitors the managers' activities, forces them to work in the best interest of the shareholders, and improves earnings quality, resultantly contributing to firm performance (Hussain et al., 2018).

Therefore, the study intended to pinpoint the impact of managerial efficiency in terms of utilizing the skills on firm performance through earnings quality and moderating the role of corporate governance. The study is also captured the empirical significant difference of the impact of managerial efficiency permanency from the managerial efficiency temporary in nature on the firm performance.

The below presented conceptual framework (Figure 2.1) developed based on the theory and past studies explains the model of the study. In the model, managerial efficiency (MB) is taken as an independent variable, and firm performance is a dependent variable. Managerial efficiency and corporate performance are mediated by the earnings quality (ERQ). The association between managerial efficiency (MB) and business performance is moderated by corporate governance. Another objective of the study is to check whether the impact of managerial efficiency permanency is significantly different from the managerial efficiency temporary in

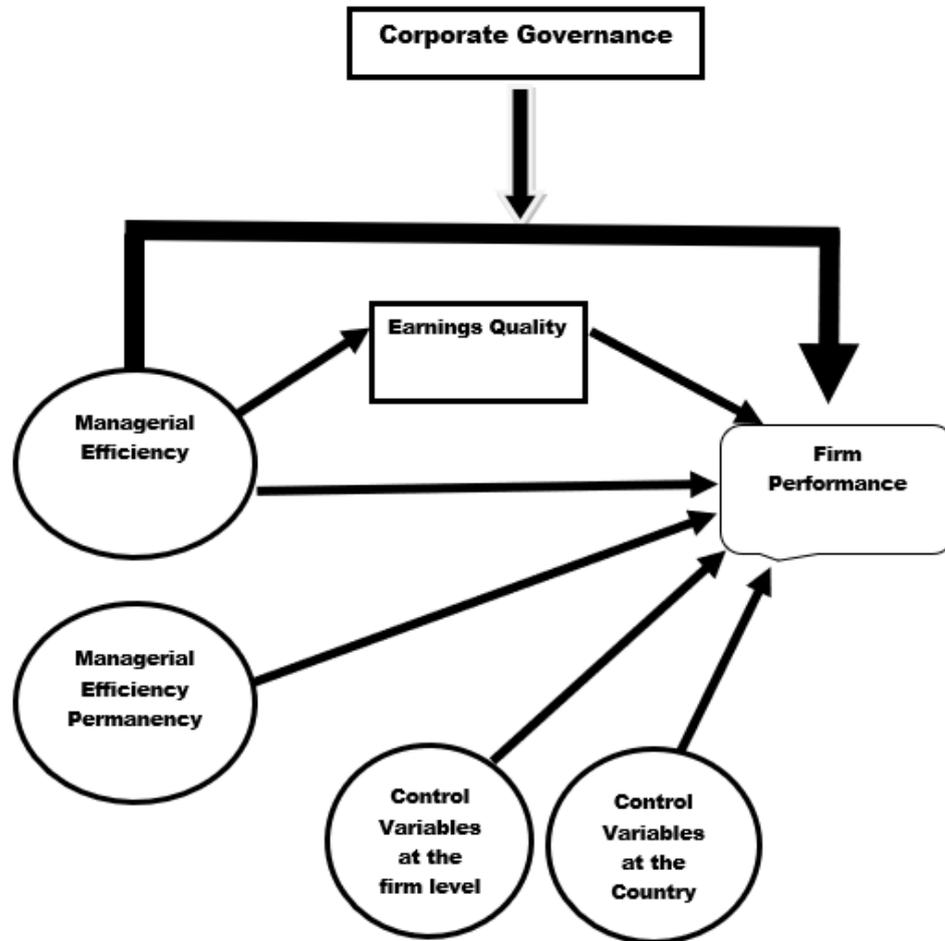


FIGURE 2.1: Conceptual Framework

nature on the firm performance. Therefore, slope dummy is included by multiplying the managerial efficiency and managerial efficiency permanency dummy with value 1 if permanency exist otherwise 0. The conceptual framework also shows that firm-specific, country-level governance, and macro-economic variables have been taken as control variables. The control variables at the firm level are firm age, size, sale growth, sale volatility, financial slack, and leverage, and at the country level, control variables are governance mechanism, interest rate, exchange rate, GDP growth, and foreign direct investment. In the study, the country-level governance mechanism index has been used, which has been constructed by using the principal component analysis (PCA) and by incorporating the six dimensions, which are Control of Corruption (COC), Government Effectiveness (GEF), Regulatory Quality (REGQ), Voice and Accountability (VAC), Rule of Law (RUL) and Political Stability and Violence (PAC).

2.2 Managerial Efficiency and Firm Performance

Recently, advanced globalization, increasing competition, rapid changes in technologies, and reducing life cycles of a product are felt in a business environment [Nadkarni and Narayanan \(2007\)](#), due to which a rapid remodeling [Sushil \(2005\)](#) and strategic flexibility [Volberda \(1999\)](#) in a business environment is an essential element for long-lasting sustainability, which further contributes in firm performance ([Grewal and Tansuhaj, 2001](#)). [Shalender and Yadav \(2019\)](#) argued that in past studies, the contribution of many factors (Resources, structure of organization, and coalition networks) to strategic flexibility had been investigated, but the role of managers in developing strategic flexibility is still ignored area. The ability of managers to filter the relevant information for critical decision-making from various external and internal factors with uncertainty, doubts, and confusion primarily depends on their psychological personality traits ([Shalender and Yadav, 2019](#))

Managers explore and take advantage of investment possibilities that maximize value and add value to the company rationally, but a lack of resources prevents them from taking advantage of these chances ([Naeem and Li, 2019](#)). At this point, managers' work begins because they have the discretion to decide how to invest the available assets, and management effectiveness is essential since it affects corporate performance and business growth. Therefore, the future of the company and the maximization of shareholders' value depend on the effective, efficient, and ongoing use of resources. By accurately forecasting product demand, perceiving industry trends, and investing in value-adding projects, managers with efficiency and skills play a crucial role in achieving this goal ([Lee et al., 2018](#)).

To some extent, decision-making reflects the behavior of the decision-makers, and complex judgments are often reliant on cognitive [Gan \(2019\)](#) and behavioral factors ([Hambrick and Mason, 1984](#)). According to [Hambrick and Mason \(1984\)](#), future outcome predictions are based on the cognitive and behavioral aspects of the managers. They further suggested that managers' (decision makers') physiological and cognitive base values (age, gender, education, and income) affect strategic decisions, including financing choices, production innovation, taking advantage of

investment possibilities, and forward integration.

The resource-based perspective theory, which describes the significance of managers [Holcomb et al. \(2009\)](#), indicates that a firm's ability to gain a competitive advantage depends significantly on its managers' capacity to do so ([García-Meca and García-Sánchez, 2018](#)). On the way, echelons theory argues that managers with several behavioral characteristics are not similar in cognitive styles, so they make different decisions in complex situations ([Bamber et al., 2010](#)). This theory proposes that individual characteristics of managers influence corporate decisions and performance by interpreting the firm's situations according to their perception ([Hambrick, 2007](#)).

Managerial efficiency significantly impacts operational and financial output [Chang et al. \(2010\)](#), which further affects the organization's performance ([Andreou et al., 2016](#)). [Dutta \(2008\)](#) discussed theoretically that professional management expertise contributes to firm performance. Managers might raise more money to take advantage of investment possibilities by being more effective, credible, and capable. On the other side, they use resources effectively to generate cash flows from the company's operations. Therefore, Managerial efficiency contributes to firm performance.

Studies have recently examined the impact of managers' individual preferences on company choices ([Bamber et al., 2010](#)). According to [Bertrand and Schoar \(2003\)](#) initial study, managers' management styles impact operational and financial choices, which also affect the organization's success. [Jensen and Zajac \(2004\)](#) backed up this claim, and they mentioned that managers' experience influences the development of strategies. Therefore, this study was carried out to check how Managerial efficiency effectively improves firm performance to protect the shareholders' rights.

Despite the importance of managing ability, the effects of managerial skills on financial organizations have received little attention in the majority of prior studies ([García-Meca and García-Sánchez, 2018](#)). Managerial skills are considered the resources for an organization, which help tackle the upcoming challenges, planning development, planning execution, and utilization of the resources properly ([AHMAD and AHMAD, 2021](#)). According to [Smith et al. \(2007\)](#), the past studies

introduced the five essential aspects of managerial skills, marketing, financial, management, administrative, and legal. Utilization of these skills in a proper way is the crucial source of competitive edge (Al-Madhoun and Analoui, 2003; Tonidandel et al., 2012). Past studies used these skills as a single construct, which are very important for utilizing the resources and enhancing the firm performance (Aliyu, 2015; Tonidandel et al., 2012; Mehralian et al., 2020).

Several types of research looked into the influence of particular managers on business choices. According to Bertrand and Schoar (2003) research, executive managers have several management philosophies, and these philosophies have an impact on various business choices. Numerous studies on management style and managerial aptitude have been conducted, including those on the chief financial officer's knowledge and restatements Aier et al. (2005), the manager's reputation, and earnings quality Francis et al. (2008), the manager's approach and firm voluntary disclosure Bamber et al. (2010), the manager's approach and corporate tax avoidance (Dyreng et al., 2010). All these studies are related to the managerial approaches, skills, and utilization of the skills and abilities, which further contribute to firm performance. Thus, Managerial efficiency in terms of skills and usage of the skills and abilities improves the firm performance.

H1: Managerial efficiency has a positive impact on firm performance.

2.3 Managerial efficiency , Corporate Governance, and Firm Performance

The Asian and Western listed firms realized the importance of the code of corporate governance, policies, and principles get the significance After Asian financial crisis (AFC, 1997-1998) and the Global financial crisis (GFC, 2008), respectively (Khan, Al-Jabri and Saif, 2021). These financial crises (AFC 1997-1998 and GFC-2008) triggered and forced the economies, especially emerging economies, to take precautionary measures by implementing the corporate governance mechanism as standard rules and policies (Khan et al., 2021b). By providing and putting into practice various rules and regulations in the company's operations, the codes and

principles were seen as the key to enhanced business performance.

The idea of corporate governance emerges from the separation of ownership and control of the business. This separation allows the skilled management to run the company efficiently, but on the other side, owners face the risk of agency costs. Therefore, the prime objective of corporate governance is to safeguard the rights of the shareholders and other stakeholders, which contributes to minimizing agency risk (Srivastava et al., 2019). Investors and shareholders seek transparency and the preservation of their capital in how the company does business due to the rise in scandals, the financial crisis, and managerial fraud (Gupta and Sharma, 2014). It is challenging to address the obligations and responsibilities of the manager, director, and other stakeholders in a firm without a good governance structure (Khan et al., 2021b).

Agency problems emerge as a result of separating ownership and control. When managers begin to pursue their self-interest and focus on maximizing their wealth at the cost of the wealth and interests of other stakeholders, agency issues emerge (John and Senbet, 1998). To safeguard the interests of the stakeholder in such a situation, contracts may call for the disclosure of pertinent accounting information. Since managers provide accounting information, there are chances they may overstate the figures within the scope of accounting standards and estimates (Gompers et al., 2003). An efficient corporate governance mechanism can help decrease agency problems between managers and shareholders (Watts and Zimmerman, 1983). Corporate governance, as defined by Jensen (1986), “deals with mechanisms by which stakeholders of a corporation exercise control over corporate insiders and management such that their interests are protected.” According to Zéghal et al. (2011), the institutional environment provides robust legal protection to stakeholders and helps control managers’ self-interest to some extent.

The research conducted by Man (2013) showed that a comprehensive governance mechanism could reduce the adverse outcomes of earnings management, which further influences the firm performance. According to their study, firms that usually overstate the reported earnings have a governing board comprising a majority of internal directors and inside CEO, who also acts as the board’s chairperson. Similar findings were observed by Liu and Lu (2007), showing that the firms

whose boards consist of a majority of external directors are less likely to indulge in earnings manipulation when the figures fall below the threshold. In another study, the relationship between corporate governance and earning management was examined by [Peasnell et al. \(2005\)](#) in Chinese listed companies. Their findings indicated a negative association between earning management and corporate governance; therefore, effective corporate governance is necessary to monitor the managers not to work for their interest, further improving the firm performance.

[Zéghal et al. \(2011\)](#) found a negative relation between earnings management and the independence of the board of directors and audit committee after the Sarbanes-Oxley Act (SOX). The results of their study suggest that SOX provisions improve the effectiveness of corporate governance functions in cross-listed foreign firms, specifically in monitoring the quality of accounting earnings. External audit quality has a positive effect on reducing earnings management ([Marra et al., 2011](#)). [Chang and Sun \(2009\)](#) observed an increase in the quality of financial reports influenced by audit committees after the International Accounting Standards (IASs) were introduced. These findings indicate that corporate governance mechanisms play a critical role in restraining earnings management, thus improving earnings quality.

Corporate governance mechanisms are found to be different in emerging and developed markets. Past studies indicate that in the case of institutions providing weak investor protection, there are more chances of low-quality of earnings information and severe earnings management ([Nenova, 2003](#); [Shleifer and Wolfenzon, 2002](#)). Many studies show that with solid legal protection for investors, managers are less likely to manipulate earnings ([DeFond et al., 2007](#); [Dimitras et al., 2015](#)).

In developed countries, there are extensive requirements for disclosure, and creditors and shareholders have greater rights to control managerial discretion and strict enforcement of public and private security regulations. According to [Ball et al. \(2000\)](#), earnings management decreases in countries that practice more vital investor protection. In their study, [Leuz et al. \(2003\)](#) argued that an essential characteristic in restricting the self-interests of managers, constraining their opportunistic behavior, and improving the quality of financial statements is an institutional arrangement in any country. Legal systems are there to protect the rights

of shareholders by giving the power to discipline managers and enforce contracts that limit the benefits of managers. According to the research of [Shen and Chih \(2007\)](#), the audit environment is directly affected by the legal environment and its effectiveness, whether giant international audit firms provide high-quality services or not. Companies that are operating in a robust enforcement environment are more likely to induce a decline in the extent of discretionary accruals as compared to those that operate in a weak environment.

In any economy, the quality of government depends upon many other institutional constraints, for example, the political system, constitution, and laws. Firms operating under low-quality governmental influence develop a complex organizational structure, weak corporate governance mechanisms, and poor transparency e.g., ([Fan et al., 2013](#); [Jiang et al., 2010](#)). Therefore, the typical characteristics of emerging markets include poor financial opacity and disclosure of financial information. However, improving financial opacity in such markets is not dependent on the accounting system alone. It is because solid institutions are required to ensure enforcement of these rules, and emerging markets lack such institutions ([Shayan-Nia et al., 2017](#)). Controlling shareholders and managers of firms in countries with well-established investor protection laws are more likely to work for the benefit of shareholders and avoid expropriating the firm's wealth ([Sun and Rath, 2010](#)).

Many studies carried out in the context of India reported the linkage between corporate governance and firm performance; e.g., [Bhatt and Bhattacharya \(2015\)](#) revealed a positive relationship between the larger size of the board and board meeting attendance members with firm performance. Previous studies also reported a positive relationship between board size, board duality, and firm performance [Bansal et al. \(2016\)](#), between board independent female directors and firm performance [Sanan \(2016\)](#), between board age diversity and firm performance [Kagzi and Guha \(2018\)](#), between board size, the busyness of board directors, board independence and firm performance ([Mishra and Kapil, 2018](#)). Some studies reported a negative relationship between firm performance and Board structure [Bhatt and Bhattacharya \(2015\)](#), board size and firm performance [Palaniappan \(2017\)](#), and diversity in education and firm performance [Kagzi and Guha \(2018\)](#). In contradiction, past studies also reported an inconclusive (Insignificant) association between

firm performance and corporate governance (Bansal et al., 2016; Mishra and Kapil, 2018; Kagzi and Guha, 2018).

According to research by Muttakin et al. (2012), the performance of Bangladeshi banking enterprises is positively and significantly correlated with the size of the board of directors. According to Bangladesh's corporate governance rules, the size of the boards of all publicly traded businesses may range from five to twenty (BSEC, 2018). Recently, Fariha et al. (2021) reported in their studies that board independence is ineffective in the scenario of Bangladeshi companies as they found an unexpectedly negative relationship between board independence and firm performance; they further reported that the representation of females in the board is also ineffective to firm performance.

According to Wang et al. (2019), in Pakistan, many studies have been carried out concerning corporate governance, but empirical results still need further probing. Therefore, they conducted the research by gathering the data from 2011 to 2014 from PSX-100 index-listed firms and reported that board size, board meetings, and board independence are ineffective to firm performance. Lu et al. (2021), conducted research and reported that board composition consisting of board size and board independence has a positive and significant impact on firm performance.

2.3.1 Corporate Board Structure

The globe has experienced some of the most significant corporate disasters and financial catastrophes in recent decades, and bad corporate governance was the primary cause of failure in most cases (Sobhan, 2021). Given the significance of effective corporate governance in averting company failures, scholars and policy-makers have increasingly paid close attention to the link between board features and firm performance Samaha et al. (2012) as crucial components of corporate governance include board characteristics (Sobhan, 2021).

The critical dimension of the corporate governance system is a board of directors or board structure that contributes positively to ensuring the managers work to maximize the shareholders' wealth and protect the shareholders' rights (Fama and Jensen, 1983). Many empirical studies reported a positive relationship between

corporate governance and firm performance (Vafeas and Theodorou, 1998; Dahya and McConnell, 2007; Dahya et al., 2009).

In past studies, different dimensions of corporate governance (Ownership structure, Audit quality, and Board structure) have been used to capture the influence of corporate governance on firm performance. However, by following Khan et al. (2021b); Abdou et al. (2021), the study used corporate board structure and in board structure, the board size, board independence, and board meetings have been used. A competent board structure and its membership are considered vital elements of corporate governance in emerging economies to safeguard the rights of shareholders (Jackling and Johl, 2009). Moreover, by following Larcker et al. (2007); Roy (2018), the study also constructs an index based on principal component analysis (PCA) to measure the summarized information on corporate governance. The board size, board meetings, and board independence are part of the corporate governance index developed based on principal component analysis.

A board tries to improve a company's performance and impose obligations and duties that are legally vested (Zahra and Pearce, 1989). By aligning the interests of the principal and the agent, corporate boards may play a significant role in reducing this agency cost (Rose, 2005). The corporate board is regarded as a critical corporate governance instrument since it oversees and gives strategic direction to the management (Brennan, 2006). Overall, there has been a wide range of research supporting the effect of board composition on performance. Different theoretical frameworks for the inquiry have contributed to different conclusions in some cases, but most studies reported a positive relationship between board composition and firm performance (Jackling and Johl, 2009).

2.3.2 Role of Board Independence

A combination of internal and outside directors must be on the board of directors of listed firms, according to the majority of corporate governance norms and guidelines worldwide (Jackling and Johl, 2009). However, one of the most contentious and studied aspects of corporate governance is the topic of whether outside directors influence company performance. To protect the shareholders' rights,

independent directors are chosen from outside the company to oversee the managers' operations (Sobhan, 2021). A more significant percentage of independent directors on the board will lead to more effective management of manager activities, claim (Fama and Jensen, 1983). According to agency theory, the independent directors on the board play a vital role in ensuring the managers' acts are in the shareholders' best interest. (Fama and Jensen, 1983) discussed that the general expectation from independent directors is that they are independent and have expertise in their work, due to which they will monitor the executive directors. They also suggested that their experience, knowledge, and expertise in monitoring services improve corporate performance. On the other hand, the resource-based theory expresses that independent directors improve profitability as they are experienced and have the expertise they suggest for future investment and strategy. In contradiction, the discussion has been reviewed in past studies that executive directors may monitor the managers more effectively than the independent directors as they are well informed regarding the firm's daily operations (Baysinger and Hoskisson, 1990). On the other side, the non-executive directors primarily provide their services part-time, which limits their information source and monitoring of the managers, which also limits them to make effective decisions (Bozec, 2005). Thus, the independence of the board of directors may influence the firm performance negatively. The empirical studies also show mixed results; Baysinger and Butler (1985) reported the positive influence of non-executive directors on firm performance. Similar findings were made by Rosenstein and Wyatt (1990), who discovered that a transparent announcement of the nomination of an outside director increased shareholder wealth.

According to the agency theory, independent directors are an efficient form of governance that lowers the expenses associated with the agency that result from the division of ownership and control. Hermalin and Weisbach (1988) reported the empirical results that non-executive directors effectively monitor managers and act as penalizing mechanisms for the managers. Empirically, independent directors operate as disinterested outsiders and are therefore more likely to adhere to the shareholders' wealth maximization rule, as demonstrated by (Monks and Minow, 2011). Dahya et al. (2008) also indicated, especially in economies where legal

protection of shareholders' rights is weak, the positive influence of non-executive directors on firms' value. Some studies also reported the negative relationships between non-executive directors and firm performance (Agrawal and Knoeber, 1996; Bozec, 2005). In a nutshell, mixed results for the relationship between board independence and firm performance have been observed.

2.3.3 Role of Board Size

The number of directors on the board as a gauge of the board's size, influenced the firm performance while making decisions and involving in communication (Jensen, 1993). According to Lipton and Lorsch (1992), a giant board of directors might become problematic since they seldom examine management policies or evaluate business performance compared to other companies. In their analysis of Bangladesh's listed manufacturing businesses, Rahman and Saima (2018) discovered a strong and favorable correlation between board size and company performance. Larger boards can increase the company's adaptability, considerably boosting performance (Sobhan, 2021).

According to Hermalin and Weisbach (2001), board size appears to be declining with time, indicating that businesses and markets are becoming more aware of the benefits of smaller boards for carrying out duties and enhancing firm value. The board should be big enough that changes in its makeup can be handled without causing too much disturbance and that the mix of talents and experience is adequate for the firm's needs. These principles imply that, notwithstanding the Code of Business Governance's assessment of the impact of board size on corporate success, board size is optional. Every firm has different functions and may become more different across the industries due to which the same board size cannot be formulated for every business (MacNeil and Li, 2006). Although the ideal board size is debatable, previous research has found that the board's size and makeup are crucial governance mechanisms that justify the agency's duties and the firm's required resources (Tanjung, 2020). According to Chen et al. (2007), the board size should follow the industry pattern with two numbers as variations of the average board size.

Perhaps a giant board would be more effective in limiting earnings management. On the other hand, a small board of directors may be able to act more quickly, effectively, and flexibly when making choices, which would limit opportunistic Managerial efficiency and lower earnings management. Larger boards of directors have higher administrative costs and coordination issues, making it more challenging to use knowledge and talents effectively (Forbes and Milliken, 1999). Therefore, it may be thought that a smaller board would be more valuable and thrive as a mechanism for monitoring and giving better financial reporting supervision (Lipton and Lorsch, 1992; Zgarni et al., 2014).

In the context of stewardship theory, the large size of the board has a positive influence on the value of a firm as a large number of board members may have diverse expertise, due to which a positive effect is seen on the value of the firm (Rashid and Islam, 2013). On the contrary, agency theory explains that a giant board reduces a company's value because ineffective coordination and communication among board members result in passive oversight by the members of the board (Yermack, 1996; Rashid and Islam, 2013). Coles et al. (2008) also discussed that high costs to coordinate and process issues are expected to bear due to larger board size, which reduces efficiency. Studies and empirical research have demonstrated that board size has a detrimental influence on bank performance (Staikouras et al., 2007; Pathan and Faff, 2013). According to research by Muttakin et al. (2012), the performance of Bangladeshi banking enterprises is positively and significantly correlated with the size of the board of directors. According to prior research, the smaller board is more effective in influencing executive choices (Yermack, 1996). Because of coordination and communication issues, a giant board of directors damages the company's performance. Small firms' boards ensure effective investments because these boards have effective control over managerial choices (Cho and Rui, 2007). Additionally, Dechow et al. (1996) explored the relationship between board size and opportunistic Managerial efficiency and demonstrated that smaller boards have greater oversight and control.

2.3.4 Role of Board Meetings

The board meeting of an organization, which is presided over by its directors,

provides an excellent forum for discussing operational concerns and making decisions with the unanimous support of the members (Sobhan, 2021). Board meetings gauge the board's diligence, further measuring the board's commitment to the organization (Fariha et al., 2021; Hossain, 2008). The board of directors' meetings is a suitable and effective platform to make decisions and discuss the operational problems of the organization; it is also a place where the actions of the managers are also discussed, and decisions are made to protect the rights of the shareholders. Board meeting frequency has a beneficial impact on business performance (Eluyela et al., 2018).

The board directors have their meetings to monitor the management's decisions and guide them to improve the firm's performance. In frequent board meetings are evident that the board takes its responsibility honestly to defend the interests of the shareholders (Lorsch and MacIver, 1989). Azar et al. (2014) argued that regular board meetings are essential to corporate governance. Although board meetings play an important role in monitoring the managers to make sure that they are functioning with the shareholders' best interests in mind and in board meetings essential issues are discussed, on another side, a high cost is required in managing meetings, director fee and traveling cost (Vafeas, 1999).

The intensity of board activity, as determined by the frequency of board meetings, is one factor in the resource dependence theory that is related to corporate governance and performance (Jackling and Johl, 2009). Lipton and Lorsch (1992) suggest that frequent meetings likely provide better results. Jensen (1993) took the opposite stance, arguing that routine duties take up a large portion of board meetings and restrict the opportunity for outside directors to exert effective influence over management.

In Asian countries, especially in South-East Asian, the board meetings contribute positively to firm performance (Buachoom, 2018). According to Yakob and Abu Hasan (2021), the board is often decision-making due to frequent board meetings reflecting high firm performance; as a result of these meetings, the executives' decisions are monitored and guided to work with the shareholders' best interests in mind. The argument has also been supported in a study conducted by Al Farooque et al. (2020) that board meetings regularly provide opportunities to share experiences

for monitoring management. Board meetings are therefore essential to the survival and growth of a company. Board members have several opportunities to talk, trade, and share ideas when they routinely get together to develop business initiatives (Yakob and Abu Hasan, 2021).

2.3.5 Construction of Corporate Governance Index

The board size, independence, and board meetings are the aspects of board structure and governance that contribute primarily to controlling and monitoring the managers and ensuring the managers' acts are only for maximizing the shareholders' wealth. The board members create diversity and look at the decisions of the matter from different angles; similarly, the independent directors have their expertise in their work because they monitor the executive directors too. The board meetings regularly also ensure the surveillance of the board members, making board meetings proof that the board members are serious about taking their responsibilities honestly to protect the interests of the shareholders (Lorsch and MacIver, 1989). Therefore, the study incorporates all these aspects collectively by constructing the corporate governance index based on the principal component analysis, as an index incorporates more information than individual aspects.

2.3.6 Moderating Role of Corporate Governance in the Relationship Between Managerial efficiency and Firm Performance

Corporate governance is an integrated internal-external control system that harmonizes the issues between managers and shareholders by separating ownership and control (Wifiamson, 1984). Board is considered an important and significant factor in corporate governance, especially in large corporations (Fama and Jensen, 1983). They further argued that due to the absence of effective corporate governance, the managers are more inclined to work in their interests. In this case, the board is a crucial component of corporate governance to protect the rights of shareholders as they have legal abilities to recruit, remove and pay senior

management ([Wiffiamson, 1984](#)). A good corporate governance framework limits the potential effects of any power abuse and lowers the need for capital expenditure. As a result, this increases the organization's economic efficiency and more appropriately reflects stock prices ([Fariha et al., 2021](#)).

Resource dependence theory defines that the board takes the position to endorse strategic decision-making ([Kim et al., 2009](#)). According to agency theory, the board oversees, supervises, and controls managers' duties to reduce agency conflicts while defending the interests of shareholders ([Fama and Jensen, 1983](#)). While corporate governance mechanisms build the norms and codes to reduce agency concerns and other costs incurred by a business, agency theory depicts the genuine pictures of agency costs carried by the firms ([McKnight and Weir, 2009](#)). The goal of agency theory is to address the influential monitoring role of a business by the non-executive members on the board, is to address the implications of codes of corporate governance as the best practice in a corporation to reduce agency concerns and opportunistic behavior ([Aduda et al., 2013](#)). Board structures benefit the company by elevating controlling and monitoring responsibilities above senior management to maintain a balance, and the adoption and execution of corporate governance standards enhance the board's efficiency ([Ameer, 2013](#)).

The board of directors is regarded as the critical internal governance attribute competent to reduce agency concerns as board features reduce opportunistic Managerial efficiency and improve investment efficiency [Bzeouich et al. \(2019\)](#), which adds to firm performance. The research that is now available concentrates on the board's function as an internal control mechanism to lessen conflicts of interest and, as a result, enhance business performance ([Fama and Jensen, 1983](#)).

The board's responsibility extends beyond just endorsing managerial decisions [Kim et al. \(2009\)](#) it may also assist in coordinating such decisions with shareholder interests to reduce agency conflicts ([García-Sánchez, 2020](#)). Applying the most acceptable corporate governance standards is one of the critical strategies for reducing the friction between managers and shareholders, according to academics and practitioners who have studied the topic ([Shahwan and Habib, 2020](#)). According to [La Porta et al. \(2002\)](#), investors are willing to invest in companies that favor the rights of the investors. Therefore, the investor tries to recognize and

probe the corporate governance practices of the companies and feel free to invest and provide the equity to the firm, where the effective corporate governance mechanism is practiced, and this corporate governance helps minimize the agency issue between the managers and shareholders. This discussion helps to understand the linkage between corporate governance and firm performance by reducing agency issues (Enache and Hussainey, 2020).

The above discussion provides evidence that on one side, corporate governance improves the firm performance Iqbal et al. (2019); Abdallah and Ismail (2017), and on the other hand, it also helps to minimize the agency conflict between managers and shareholders by monitoring the managers' act (Srivastava et al., 2019). Corporate governance is a mechanism that directly influences the firm performance and managers' activities by monitoring them. Thus, the best practices of corporate governance improve the relationship between Managerial efficiency and firm performance. Therefore, it is concluded that the corporate governance index comprising the board size, board meetings, and board independence, play a moderating role in the relationship between Managerial efficiency and firm performance.

H2: Corporate Governance improves the relationship between Managerial efficiency and firm performance.

2.4 Managerial efficiency Permanency and Firm Performance

The long-term survival and financial performance of any business is a basic strategic goal (Shaw and Harrald, 2003). The managers' skills and utilization of their skills and efforts permanently are required to improve the corporate performance for the long term, and it creates goodwill as short-term efforts are not durable. Corporate goodwill boosts the morale of employees' loyalty to the customer, and regulators also have lenient views of the corporate (Jensen, 2002; Brown et al., 2006). Both creative and managerial skills are positively linked with firm performance, and the growth rate of businesses that incorporate these skills simultaneously is more significant than those that do not adopt them (Siepel et al., 2021).

Managerial skills in organization utilization are considered the main factor in a firm's achievements (Ahmed et al., 2006). However, there always remains space for improvement in utilizing the skills, and the continuity in firm performance depends upon the management's continuous efforts. Durable and diverse managerial skills are helpful resources for a firm to generate finance with minimum costs, which further leads to firm performance and financial growth (Shaikh et al., 2017). The permanency of multiple skills and their utilization to use resources brings sustainable profitability and growth (Sinkovics and Roath, 2004).

Adner and Helfat (2003), while discussing the significance of managers' decisions strategical in nature, conceptualized the term "Dynamic managerial capabilities", which further influenced the firm performance. However, the central idea of this concept is 'asset orchestration', which involve two important decisions that are resource investment and deployment decisions Maritan (2001); Sirmon et al. (2007) and both decisions, which are related to acquiring and engaging the assets in a project or investment, are very crucial to firm performance (Sirmon and Hitt, 2009).

Now, the work of managers is considered important to make their decisions regarding the investment including both resource and deployment to better fit and if they invest continuously relative to their rival, it may affect the firm performance positively Kor and Mahoney (2005), but some suggested the investment higher than the firm's historic level may affect negatively the firm performance (Sirmon and Hitt, 2009). Therefore, another element is necessary here that is continuity and stability in Managerial efficiency , while making decisions to better fit between resource acquiring and engaging the resources on proper places.

The resource-based perspective theory elaborates on the importance of managers Holcomb et al. (2009) and explains how managers' capacity to successfully use the company's resources determines the sustainability of a company's competitive advantage. Managers make judgments based on their experiences and formal education in a particular subject, which further contributes to the success of the organization (Collins et al., 2009). Thus, managerial educational efficiency has a direct impact on the success of the company, including shareholder return, firm growth, and innovation. This theory explains how effectively the managers use

the organization's resources for long-term competitive advantage by investing in worthwhile projects. Therefore, the stability in positive behavior of management measured on an input-output based leads to improve the firm performance, which further contributes to a competitive advantage in the long term. Thus, the impact of Managerial efficiency and its stability positively influence firm performance. According to the echelon theory, managers have unique traits and cognitive styles that are not interchangeable, which causes them to make unique judgments, especially in complicated situations (Bamber et al., 2010). This idea contends that managerial characteristics influence corporate decisions and business success by allowing managers to see business issues from their perspective (Hambrick, 2007).

Firstly, the study provides empirical evidence of the relationship between Managerial efficiency on firm performance, and afterward, the effect of consistency (Permanency) of Managerial efficiency on firm performance has been tested. The permanency of positive Managerial efficiency is required to utilize resources appropriately and to take competitive advantage. Therefore, it is a theoretical and empirical contribution of the study for adding Managerial efficiency permanency and its influence on firm performance.

Managers with high competencies are able to scan the firm's environment and find out the risk, opportunities, and chances for competitive advantages (Bellner, 2014). According to Ting et al. (2021), good Managerial efficiency in terms of utilizing the skills and resource brings the consistency in operations of the business and on the other side, the managers with low abilities to utilize the skills and resources make poor judgements a make comparatively ineffective decision. Risk-taking is necessary for a company to survive, and more capable managers are more willing to take risks than less capable managers are (Yung and Chen, 2018). In pursuit of investment possibilities, managers' risk-taking conduct improves business performance (John et al., 2008). Managers are the driving forces behind making the most of the available resources and investment possibilities to boost business success. Managers with outstanding ability are open to taking risks, while managers of lesser ability avoid taking risks (Yung and Chen, 2018). On the one hand, skillful managers take risks in availing of investment opportunities with limited resources to add value and profitability. On the other hand, they

constantly remain involved in operational planning and make critical corporate decisions, which improves financial performance in the long run.

To some extent, decision-making reflects the quirks of the decision-makers, and complicated judgments are frequently reliant on cognitive [Gan \(2019\)](#) and behavioral factors ([Hambrick and Mason, 1984](#)). Forecasting future events, choices, and repercussions related to those alternatives are impacted by these cognitive and behavioral-based judgments ([Hambrick and Mason, 1984](#)). According to [Hambrick and Mason \(1984\)](#), managers' (decision-makers) physiological and cognitive base values (age, gender, education, and income) have an impact on their ability to make strategic decisions, such as those regarding financing, production innovation, taking advantage of investment opportunities, and forward integration.

Managerial efficiency is a significant factor in operational and financial output [Chang et al. \(2010\)](#), which further influences the firm performance ([Andreou et al., 2016](#)). Studies have recently been conducted to examine the influence of managers on company choices ([Bamber et al., 2010](#)). According to the initial study by [Bertrand and Schoar \(2003\)](#), managers' unique management styles have an impact on operational and financial choices, which further enhances business performance. In respect of the resource-based view theory, the continuity of managers' efforts and usage of resources efficiently permanently give a competitive advantage to the company ([García-Meca and García-Sánchez, 2018](#)). The continuation and improvement of managerial efficiency is another factor for business success. So, managerial efficiency permanency improves the firm performance more than the temporary managerial efficiency in terms of utilization of resources.

H3: Managerial efficiency permanency affects significantly different than the temporary managerial efficiency on firm performance.

2.5 Managerial efficiency , Earnings Quality, and Firm Performance

Companies worldwide were increasingly conscious of providing more information to investors and users of financial information after the financial scandals of 2002 and

2008 to promote transparency and signal good performance (Al-Sartawi, 2013). When there is an unequal disclosure of information, managers frequently withhold information and priorities their interests above those of the shareholders Alsartawi (2018), which is costly for shareholders, and this asymmetric information may create agency issues between managers and shareholders. Basuony and Mohamed (2014) argued that large firms intended to reveal more information by going into more disclosure to reduce asymmetric information and ultimately decrease agency costs.

Only concentrating on the direct effect of managerial competence on company performance may not completely reflect a manager's capacity to preserve competitive advantage in today's quickly evolving business environment, thus the effect of Managerial efficiency on firm performance through a mediator is required to study (Ting et al., 2021). Financial reporting strives to achieve efficient capital allocation and reduce the misappropriation of a firm's capital resources (Bzeouich et al., 2019). Quality of the financial reporting plays a vital role in the success of a business; if the quality of the financial reporting is enhanced, investors will have the opportunity to make decisions without uncertainty by predicting the business's future performance. The managers play a vital role in the quality of financial reporting, further enhancing the firm's performance. Therefore, one of the study's main objectives is to capture the mediating role of Earnings Quality in the relationship between Managerial efficiency and firm performance.

By following Muller et al. (2005); Baron and Kenny (1986); Khan et al. (2021a) theoretically and empirically, three path relationships are required to establish the development of the hypothesis that the quality of the financial reporting (FRQ) mediates in the relationship between Managerial efficiency and firm performance. In the first step (path-a), the significant theoretical influence on Managerial efficiency (Independent variable) is required to prove. In the second step (Path-b), the significant impact of quality of the financial reporting (Mediator) on firm performance is needed to prove theoretically. In a third step (Path-c), the theoretical effect of Managerial efficiency on firm performance must be proved. If all three paths are proven to establish a significant relationship to outcome variables, then the fourth step is carried out to check the full or partial mediation of the quality

of the earnings quality (ERQ) between managerial efficiency and firm performance.

2.5.1 Impact of Managerial efficiency on Earnings Quality

In support of the Upper Echelon theory and Resource-based view theory, researchers connected Managerial efficiency with shareholders' returns [Hayes and Schaefer \(1999\)](#) and firm growth ([Holbrook et al., 2000](#)). These theories also elaborate that Managerial efficiency shapes quality of the financial reporting as management accounting principles are implemented, and financial statements are prepared by the managers ([García-Meca and García-Sánchez, 2018](#)). [Demerjian et al. \(2013\)](#) discussed that management with more knowledge, skills, and experience in the business environment affect the firm in term of lowering errors in the provision of bad debts and improving the quality of accrual estimations and steadily higher earnings. On one side, [Aier et al. \(2005\)](#) determined that Corporate Financial Officers (CFOs) with more expertise cause lowering of restatements, and the chances of becoming insolvent firms are reduced due to the efficiency of CEOs ([Leverty and Grace, 2012](#)). On the other side, [Francis et al. \(2008\)](#) argued that CEOs' reputations and earning quality are inversely related; due to their overestimation of personal career improvement, they take such actions, which deteriorate discretionary earning quality. Managers have approaches toward internal controls, directors, colleagues, and auditors, which may affect the quality of financial reporting and earnings ([Aier et al., 2005](#)). The business's financial and operational situation is reflected in a fantastic component, i.e., the income statement [Akbari et al. \(2018\)](#), from which the investors and creditors gauge the firm performance and other stakeholders make their selections and decisions. The managers are crucial elements with expertise; knowledge, virtuous conduct, and cognition are crucial in making the accounting statement a magnetic component.

In previous studies, the focus was to investigate and report the contribution of governance characteristics to the quality of financial reporting and earnings of firms from a non-financial sector ([Beekes et al., 2004](#)). For example, due to the small board size, effective coordination among the managers and boards members is established, which ultimately improves the quality of financial reporting and earnings ([Jensen, 1993](#); [Onuorah et al., 2016](#)), increasing the portion of board

independence contributes to improving the quality of the financial reporting [Koh et al. \(2007\)](#), the chances of financial statement manipulation and frauds are increased due to increasing the portion of outside directors [Beasley \(1996\)](#) as board independence helps in minimizing the earnings management ([Klein, 2002](#)). In respect of board duality, Jensen (1993) stressed the significance of the separation of the CEO and chairman of the board, which contributes to improving the quality and transparency of financial reporting.

[Dechow et al. \(1996\)](#); [Byard et al. \(2006\)](#); [Firth et al. \(2007\)](#) also supported and reported respectively that holding of CEO position by the chairman of the board at the same time might have the chances to endorse the same orders of CEO due to which quality of the financial reporting may be compromised. However, some empirical studies found no significant influence of CEO duality on quality of the financial reporting ([Bradbury et al., 2006](#); [Ahmed et al., 2006](#)). The researchers also indicated the importance of audit quality [Watts and Zimmerman \(1983\)](#); [Teoh and Wong \(1993\)](#); [Chung et al. \(2003\)](#) and ownership structure in improving the quality of financial reports ([Fan and Wong, 2002](#)). After many studies in respect of capturing the influence of corporate governance on quality of the financial reporting, the paradigm is shifting to pinpoint the contribution of managerial ability, efficiency, and behavior towards the quality of financial reporting and earnings and firm performance.

Prior studies investigated the effect of managerial efficiency on quality of the earnings by taking proxies such as accruals, accounting restatements, or earning quality, but reported evidence is inconclusive ([García-Meca and García-Sánchez, 2018](#)). Managers are the key players to have their major contribution in earnings by taking their operating decisions ([Choi et al., 2015](#)). [Francis et al. \(2008\)](#); [Matsunaga and Yeung \(2008\)](#); [Schrand and Zechman \(2012\)](#) carried out their studies to inquire about the association between CEO attributes, and managers' financial expertise, and the overconfidence of executives, respectively with quality of the financial reporting. These studies concluded that managers are the main contributors and play a vital role in the process of financial reporting, ultimately influencing the quality of financial reporting and earnings ([Choi et al., 2015](#)). [García-Meca and García-Sánchez \(2018\)](#) investigated and established that

managerial expertise is a significant contributor to quality of the financial reporting and more capable managers are less involved in window dressing compared to less capable managers. The findings of their study support the notion that managerial skills significantly influence the accuracy of financial reporting in banks and that talented bank managers are less likely to opportunistically manage earnings. Therefore, able managers with more expertise, skills, positive attitude, behavior and efficiency utilize the firm resources effectively, which contributes in earnings quality.

2.5.2 Impact of Earnings Quality on Firm Performance

One primary purpose for reporting financial information is to assist capital allocation efficiently and to improve investment decisions [Chen et al. \(2011\)](#), which further contributes to firm performance. Prior studies suggest that transparency of financial reporting helps resolve the under and over-investment problem [Biddle and Hilary \(2006\)](#); [Biddle et al. \(2009\)](#), as it reflects the earnings quality, which further contributing to improving the firm performance. The disparity of the information between managers and Shareholders is called asymmetric information, and it increases the agency conflict between both parties and the risk to the investors ([Siagian et al., 2013](#)). This agency issue and the risk of the investors can be minimized by improving the quality of the disclosure, and managers are the key factors to disclose the better quality of earnings, which causes the lowering of the cost of equity [Botosan \(1997\)](#) and improves the firm performance ([Siagian et al., 2013](#)).

Past studies reported that higher earnings quality lowers investment inefficiency and improves firm performance ([Bushman and Smith, 2001](#); [Lambert et al., 2007](#)). [Biddle and Hilary \(2006\)](#) also supported this argument while reporting the improvement of investment efficiency (lowering investment-cash flow sensitivity) due to the higher quality of the earnings. Investment cash flow sensitivity is an outcome of either financial constraint, which causes under-investment or excess of cash, which causes over-investment [Kaplan and Zingales \(2000\)](#); [Fazzari et al. \(2000\)](#) and this reporting ultimately effects the future profitability and firm performance. This discussion elaborates that if a company improves its investment

efficiency and reports its properly, which ultimately disseminate a positive signal in market for better future outcomes and causing the attraction of investors and contributes in firm performance. The past studies discussed the positive relationship between quality of the earnings and firm performance [Al-Mohannadi and Syam \(2007\)](#); [Dima et al. \(2010\)](#); [Al-Sartawi \(2013\)](#), but some other studies reported no influence of the level of earnings reporting on firm performance ([Flöstrand and Ström, 2006](#); [Coram, 2010](#)).

The earnings quality depends upon the managers who are agents and shareholders who invest by sacrificing today with the hope of getting maximum returns in the future. However, the lousy quality of financial reporting disturbs them, creating a panic situation for them due to a conflict between managers and shareholders. The issue between managers and shareholders may arise because managers act in their interest and go for earnings management, and they also have more information than shareholders ([Bosse and Phillips, 2016](#)). Therefore, this asymmetric information is required to be balanced. Thus, it is evident that if the quality of the financial reporting is improved, the uncertainty for all stakeholders also decreases, due to which an opaque picture goes towards the clarity and revival of panic situation is come into existence. Improved future liquidity of a firm's securities (reduced price effect) results from disclosure, which lowers the firm's cost of capital, with the decrease in the cost of capital being larger companies in size ([Diamond and Verrecchia, 1991](#)). Therefore, it is clear from the discussion that because of improving the quality of the financial reporting, the asymmetric information is reduced, ultimately reducing the cost of capital and increasing the firm's value.

While working in an agency context, accounting information may influence the investment decision by balancing the asymmetric information between managers, shareholders, and other stakeholders, and this influence may be in two ways ([Roychowdhury et al., 2019](#)). First of all, improving the quality of earnings affects investment decisions positively as reducing asymmetric information reduces the conflicts between managers and investors, which helps raise capital comparatively at lower costs. Secondly, the improved earnings quality helps lower agency costs arising due to agency conflicts between managers and shareholders. The earnings quality

reduces the earning management, which is done by managers and ultimately reduce the agency issue. Therefore, the earnings quality helps to improve investment efficiency, which further contributes to the future financial performance of a company.

2.5.3 Mediating Role of Earnings Quality in Relationship Between Managerial Efficiency and Firm Performance

One of the critical operations in an organization is financial reporting and earnings quality, which gives users of financial statements essential knowledge about the company's strategies, historical developments, and present situation. Investors reviewed the financial statements and made their investment decisions in that specific company based on the information received through these financial statements, which elaborates the earnings quality. Therefore, the company's external source of financing depends upon the quality of the information available in the financial statements. Similarly, lenders and suppliers also make decisions to provide credit to the business and make credit supplies to the company based on the quality of the earnings. Therefore, the quality of the earnings helps predict a company's future outcomes due to which the investors invest. The high quality of the earnings helps enhance the firm performance as better earnings quality reduces the risk of an investor, and the company resolves the financing issue efficiently, which further helps in availing investment opportunities and improving firm performance.

[Dhaliwal et al. \(2011\)](#) discussed that disclosure is crucial for getting a company's information through to its external investors. While voluntary disclosures are used to give information that better explains the necessary disclosures and satisfies the user's demands, mandated disclosures typically include the most significant transactions of the organization. According to [Hossain \(2008\)](#), management evaluates the projected costs and advantages of disclosing information before deciding whether or not to do so.

According to [Gray et al. \(1995\)](#), to evaluate businesses and make other investment decisions, such as selecting a portfolio of securities, investors need the information

to determine the timing and unpredictability of present and future cash flows. Sometimes managers communicate private information to shareholders and investors through voluntary disclosures, and the capital market participants may benefit from these transparent and sufficient clues to predict the firm performance (Enache and Hussainey, 2020). Therefore, on the one side, if managers efficiency improves the earnings quality, and on the side, it further enhances the firm performance by reducing the risk to the investors.

Prior research examined managers' unique influences on business choices (Bamber et al., 2010). According to the initial study done by Bertrand and Schoar (2003), operating and particular management styles influence financial decisions. This claim was supported by Jensen and Zajac (2004), who noted that managers' experience influences strategy creation. Therefore, managerial efficiency influences corporate performance.

Francis et al. (2008) argued in the alignment of the rent extraction perspective that CEOs' reputation and earning quality are inversely related; due to their overestimation about improvement in personal career, and they take such actions, which deteriorate discretionary earning quality. Managers have some approaches toward internal controls, directors, colleagues, and auditors, which may affect the quality of financial reporting and earnings (Aier et al., 2005). Various past studies reported that earnings quality influences firm performance, and higher quality of earnings lowers investment inefficiency (Bushman and Smith, 2001; Lambert et al., 2007). Biddle and Hilary (2006) also supported this argument while reporting the improvement of investment efficiency (lowering investment-cash flow sensitivity) due to higher quality of the earning, which further improves the firm performance.

To develop the hypothesis that the earnings quality (ERQ) mediates the relationship between managerial efficiency and firm performance, three path relationships have been established theoretically, according to the work of (Baron and Kenny, 1986; Khan et al., 2021a). The above discussion elaborates that managerial efficiency leads to the earnings quality, and the earnings quality further influences firm performance. Moreover, managerial efficiency also affects the firm performance. Therefore, the above discussion shows that managerial efficiency improves firm performance by increasing the earnings quality. Thus, the earnings quality is

mediating in the relationship between managerial efficiency and firm performance.

H4: Earnings quality has a mediating role between managerial efficiency and firm performance

2.6 Control Variables and Firm Performance

In the study, firm-specific and country-specific variables have been used as control variables to minimize the biases of the results.

2.6.1 Firm-specific control variables

In the study, firm-level variables have been used as control variables to mitigate the biases of the output, e.g., firm age (Fage), Firm Size (Fsize), Leverage (Lev), Slack, and Sale growth (SG), Sale volatility (SV). Firm age, firm size, sale growth, financial slack, and leverage usually are used as standard control variables in the studies using firm performance models (Munjal et al., 2019).

Firm size is considered an essential factor, which contributes to enhancing the firm performance. If a firm increases, the company has more chances to generate external financing, which it uses to gain from the investment opportunities and ultimately contributes to firm performance. Where there is competition, big enterprises always outcompete small firms because they have a greater market share and more prospects for profit (Doğan, 2013). In previous studies, a positive relationship between firm size and firm performance has been reported (Lee, 2009). According to Majumdar (1997), the relationship between firm size and firm performance depends upon environmental and institutional factors. Firm size is an essential factor and it influences firm performance positively, but some firms experience declining firm performance despite the increasing size (Aduralere Opeyemi, 2019). In past, the studies also reported a negative impact of firm size on firm performance (Banchuenvijit and Phuong, 2012; Munjal et al., 2019).

Firm age is another major contributor to firm performance as an old company has credibility and reliability due to which it quickly gets external financing, which further contributes to firm performance. It is evident that age cannot be altered,

hence firm performance has no bearing on age, as a company cannot go back in past to do something, however, firm age, likely through intermediary processes including routine, a reputation built up through time, and organizational rigidity (Coad et al., 2018). They further discussed that the concepts about age are still being matured as due to diversification field is still far away from maturity. Loderer et al. (2017) argued that firm age creates rigidity in the organizations due to which firm growth opportunities measured by Tobin's Q declined. Coad et al. (2018) concluded that organizations are required to go into expansion with time, but they got into trouble turning employment expansion into profit growth, so the firm age effect negatively the firm's performance. Munjal et al. (2019) also used firm age as a control variable and found that firm age positively influences firm performance. According to Samosir (2018), older firms have more reputation and attract investors, which contributes to enhancing the firm performance. Therefore, the mixed results of the relationship between firm age and firm size are expected.

Leverage shows the usage of the debt portion in the capital and measures the capital structure of a firm. Munjal et al. (2019) reported the negative influence of leverage on firm performance. When debt is increased, a firm has to pay more interest, and on the other side, the risk to the shareholders is also increased. Debt usage influences the firm performance as the interest has to pay, and it creates agency problems between shareholders and managers (Serrasqueiro and Maças Nunes, 2008). In past studies, both types of negative Warner (1977); Andrade and Kaplan (1998) and positive Wruck (1990) influence of leverage on firm performance has been reported. In case of failure of other regulatory mechanisms, debt may actively participate as another adaptive reaction to inadequate investor protection to mitigate the agency issue (Jiraporn et al., 2012). Therefore, leverage may contribute positively to firm performance. The above discussion shows that mixed results of the influence of leverage on firm performance are reviewed.

Financial slack is the use of excess funds, such as cash and receivables, that can be used for a variety of purposes and these are known as high discretion slack George (2005), therefore, it's a discretion of the managers to use these funds and due to the personal interest of the managers, an agency issue is existed, which ultimately affects the firm performance negatively. On the other hand, Cryert

and March (1963) highlighted the importance of financial slack as these resources encourage businesses to take more chances, explore, innovate and invest in R&D, which contributes positively to firm performance.

In previous studies, sales growth has been taken as a control variable [Munjal et al. \(2019\)](#); [Iqbal et al. \(2020\)](#), and sale growth positively influences sales on firm performance. Recently, research was carried out with the result of a positive influence of sale growth on corporate performance ([Zimon et al., 2021](#); [Lefebvre, 2022](#)).

Sale volatility is used to measure the business risk and an increase in sale volatility due to ups and downs of sale causes an increase in the risk, which create a panic situation for investors as future profits are difficult to predict [Rowena \(2017\)](#), so stock prices are affected due to which firm performance is decreased. [Lefebvre, \(2022\)](#) while conducting research reported the negative influence of the sale volatility on the performance of all small, medium, and large firms.

2.6.2 Country Level Control Variables

Micro and Macroeconomic variables influence business performance and businesses are conscious of these variables to mitigate the negative impact of both micro and macro-economic variables on the expected cash flows and business performance ([Is-sah and Antwi, 2017](#)). However, microeconomics variables are controllable, but the influence of macroeconomic variables (Interest rate, exchange rate, GDP growth, etc.) is unavoidable and uncontrollable, so businesses are required to forecast the effect of macroeconomic factors on predicted cashflows and firm performance ([Broadstock, Shu, and Xu, 2011](#)). Similarly, other country-specific variables, e.g., governance indicators, are unmanageable and uncontrollable for businesses. Recently, the literature is contributing to addressing the national governance mechanisms like the legal system, the rule of law, or investor protection that may impact the success of corporate governance methods based on the institutional, corporate governance framework ([Filatotchev et al., 2013](#)).

According to [Kaufmann et al. \(2011\)](#) in external mechanism, i.e., national-level governance quality has six dimensions, which are Control of Corruption (COC),

Government Effectiveness (GEF), Regulatory Quality (REGQ), Voice and Accountability (VAC), Rule of Law (RUL) and Political Stability and Violence (PAC). These metrics are all considered important and have a positive impact on company performance since they are necessary to run the businesses successfully (Ngobo and Fouda, 2012). A higher value of the indicators, which range in standard normal units roughly from -2.5 to +2.5, suggests stronger national government quality (Kaufmann et al., 2011).

In previous studies, governance mechanisms have been used; for example, the Rule of Law Roxas et al. (2012) used Rule of Law, and Iwanow and Kirkpatrick (2007) took regulatory quality as control variables. However, in this study, six components of country-level governance have been considered simultaneously. In the study, the researcher used the index of all six dimensions of the external mechanism of governance (Country level governance). These indicators have significantly high correlation coefficients with one another Gliberman and Shapiro (2002) therefore, to avoid the multicollinearity issue while regressing these indicators as control variables, the study incorporates all of them in an index established based on the principal component analysis (PCA) and by aggregating the governance aspects that are Control of Corruption (COC), Government Effectiveness (GEF), Regulatory Quality (REGQ), Voice and Accountability (VAC), Rule of Law (RUL) and Political Stability and Violence (PAC). The data was gathered from worldwide governance indicators and all the dimensions have ranks from lowest to highest (0 to 100). However, to avoid the nonstationary of the data, the growth of the ranking has been calculated and then the index has been compiled by using PCA. The researcher also used the macroeconomic variables to control the dependent variables, which are Interest Rate Athanasoglou et al. (2008); Iqbal et al. (2020), Gross Domestic Product growth (GDP growth) Omran et al. (2008); Iqbal et al. (2020), Exchange Rate (Baggs et al., 2009; Iqbal et al., 2020). Foreign direct investment scaled by GDP has also been used as a macroeconomic control variable. Gross domestic product measures the total market value of all products and services delivered in a nation over the course of a year (Soukhakian and Khodakarami, 2019). Previous studies reported the positive relationship between GDP and corporate performance (Baños-Caballero et al., 2012; Ramadan, 2016).

Developing economies always try to formulate and implement policies to fascinate foreign investment to boost the domestic economy [Lu et al. \(2017\)](#) ultimately contributing to firm performance. In their study, [Tülüce and Doğan \(2014\)](#) stated that FDI contributes to economic growth by boosting capital accumulation and technological advancements and enhancing business performance. The data of the macroeconomic control variables have been obtained from the world bank.

Chapter 3

Data and Methodology

This chapter is about the methodology used in the study. The chapter comprises the sampling technique to select the south Asian emerging economies and non-financial companies listed in these emerging economies. This chapter also explains the measurements of the variables, the source of the data, and the econometric models used to test the hypotheses. This chapter explains the statistical techniques used to test the hypotheses, which includes the descriptive statistics, correlation analysis, identification of endogeneity, stationary of data and system Generalized method of moments.

3.1 Selection of Countries

In the context of corporate governance, a lot of studies carried out in both developed and emerging economies and is concluded that the effectiveness and the results of corporate governance in emerging economies far change as compared to developed economies, as these economies are weak in transparency and corporate governance mechanism to safeguard the legal rights of the shareholders (Gibson, 2003). Corporate governance in emerging economies is ineffective due to the weak and complex information environment Zhang et al. (2017), and information asymmetric in emerging markets is a common factor (Choe et al., 2005). On one side corporate governance may have less of an impact on firm performance when it comes to businesses based in nations with higher country-level governance and on

the other hand, the businesses based in nations with unfavorable legal systems are more likely to do poorly and under these conditions, enhancing corporate governance turns out to be a very effective method of enhancing firm performance. In a hostile legal climate, corporate governance would be more advantageous for businesses (Wu, 2021).

Therefore, the emerging economies with weak legal protections for the shareholders, are the targeted population of the study. Thus, the unit of the population in the study is a company listed on the stock exchanges of emerging economies. Furthermore, the stratified sampling technique has been used, and to select the sample of the study, the emerging economies have been classified into two groups. One stratum is based upon the Next eleven countries (N-11), and the other is on BRICS countries. Next Eleven (N-11) and BRICS both consist of emerging economies. However, the study further selected the South Asian countries from these emerging economies from both groups. These countries are Pakistan, Bangladesh, and India which are South Asian countries' emerging economies. Moreover, the study's primary objective is to capture the moderating role of corporate governance in the relationship of managerial efficiency with firm performance. In both strata, the three countries, Pakistan, Bangladesh, and India have consistency in the corporate ownership structure (Bae et al., 2018). In these countries, numerous factors, including low income, population pressure, unemployment, rural economies, and geographically adjacent states, are comparable.

In addition, the world bank also declares these south Asian countries (Pakistan, Bangladesh, and India) as lower-income South Asian countries. In all these three countries, the laws to govern the listed companies are formulated by the central governments, and reporting quality requirements are also set by the government agencies. Furthermore, all these three countries, Pakistan, India, and Bangladesh are taken into account to make an empirical analysis, and these countries have consistency in corporate ownership information (Masud et al., 2018).

3.2 Selection of Companies

After selection, the South Asian lower-income emerging economies and the

companies from the non-financial sector of these economies have been selected. Initially, the data were taken for 600 companies for which data was available from WRDS, S&P Global and annual reports, afterwards, the companies with missing observations have been dropped. Afterwards, the data was winsorized and finally the data was collected from 492 firms listed on stock exchanges of Pakistan, India and Bangladesh. In the case of Bangladesh, the sample size is 97; in the context of Pakistan sample size is 197; in the Indian scenario sample size is 200. The top-ranked companies, based on the size and availability of the data, have been selected from each economy (Pakistan, India and Bangladesh).

3.3 Source, Type, and Period of Data

Four hundred ninety-two companies from non-financial sectors of the three emerging and lower-income south Asian countries are part of the study. As, after the global financial crisis many corporate governance processes and guidelines underwent revisions. Moreover, all those companies have been included in the sample which data was available for the period of 11 years (2009-2019) and were listed during this period. Therefore, balance panel data has been used for further analysis. The analysis has been carried out in the context of all three countries (Pakistan, India, and Bangladesh) separately and all companies have been pooled to capture the results in a combination of all these economies. In both cases, while conducting the results in the context of all these countries separately and combine, the balance panel data has been used.

The data for firm-specific variables have been collected from Wharton Research Data Services (WRDS), S&P Global, and annual reports of the non-financial companies listed on the stock exchanges. Moreover, the data for country-level governance has been collected from the website of Worldwide Governance indicators, and the data for macro-economic control variables have been gathered from the World Bank.

3.4 Research Models

The following research models have been reported in the form of regression

equations

to capture the influence of managerial efficiency on firm performance and to pinpoint the moderating effect of corporate governance in the relationship between managerial efficiency and firm performance. The firm performance has been measured by using both book-based and market-based proxies that return on assets (ROA) and Tobin's Q (TQ) respectively. In subscript of each variable (cit) represents the country (c), firm (i) at year (t). Moreover, $Fcon$ and $Ccon$ represent the firm-specific and country-specific control variables respectively.

3.4.1 Moderating Role of Corporate Governance in a Relationship of Managerial Efficiency with Firm Performance

The following regression equations are used to capture the influence of managerial efficiency on firm performance and moderating role of the corporate governance index in this relationship. Moreover, the firm performance has been measured by using both market-based and book-based proxies which are Tobin's Q (TQ) and return on assets (ROA) respectively. According to certain academics, high-ability managers have higher business knowledge, which enhances firm performance and earnings quality e.g., (Demerjian et al., 2013; Leverty and Grace, 2012).

$$ROA_{cit} = \beta_0 + \beta_1 MB_{cit} + \beta_2 CGI_{cit} + \beta_3 (MB \times CGI)_{c,i,t} + \sum_{i=1}^j \lambda_i FCon_{cit} + \sum_{l=1}^m \alpha_l CCon_{ct} + \alpha_1 AR_{c,i,t-1} + \alpha_2 AR_{c,i,t-2} + \mu_{cit} \quad (3.1)$$

$$TQ_{cit} = \beta_{01} + \beta_4 MB_{cit} + \beta_5 CGI_{cit} + \beta_6 (MB \times CGI)_{c,i,t} + \sum_{i=1}^j \lambda_i FCon_{cit} + \sum_{l=1}^m \alpha_l CCon_{ct} + \alpha_1 AR_{c,i,t-1} + \alpha_2 AR_{c,i,t-2} + \mu_{cit} \quad (3.2)$$

obinQ (TQ) is the measurement of firm performance on a market based, and return on assets (ROA) is the book-based measurement of firm Performance. MB

represents managerial efficiency; GI is for the corporate governance index. Fcon is used to represent the firm-level control variables, which are Firm Age, Firm Size, Leverage, Financial slack, Sale growth, and sale volatility. Ccon is showing the country-level control variables, which are the external mechanism of Governance index, Interest Rate, Exchange Rate, GDP growth, and Foreign Direct Index (FDI) scaled by GDP.

First, the Corporate Governance Index (CGI) has been constructed based on Principle Component Analysis (PCA) by taking one dimension, i.e., Board structure, into account. Corporate Governance Index (CGI) consists of Board Size (BS), Board Meetings (BM), and Board Independence (Bind). After constructing the Corporate Governance Index (CGI), another variable, i.e., the interaction term, is created by multiplying the independent variable and the Corporate Governance Index (CGI). The interaction term has been established by taking the product of managerial efficiency and Corporate Governance index. Following Muller et al. (2005), this new variable has been included in the research equation. which is capture used to capture the moderating effect of corporate governance index in relationship between managerial efficiency and firm performance. Afterward, an appropriate technique has been applied to test the hypotheses.

3.4.2 Impact of Managerial Efficiency Permanency on Firm Performance

The following regression equations have been used to capture the impact of managerial efficiency permanency on firm performance and to pinpoint the significant difference between the effect of managerial efficiency permanency and the effect of temporary managerial efficiency on firm performance.

$$ROA_{cit} = \beta_{02} + \beta_7 MB_{cit} + \beta_8 MBPF_{cit} + \beta_9 CGI_{cit} + \sum_{i=1}^j \lambda_i FCon_{cit} + \sum_{l=1}^m \alpha_l CCon_{ct} + \alpha_1 AR_{c,i,t-1} + \alpha_2 AR_{c,i,t-2} + \mu_{cit} \quad (3.3)$$

$$TQ_{cit} = \beta_{03} + \beta_{10} MB_{cit} + \beta_{11} MBPF_{cit} + \beta_{12} CGI_{cit} + \sum_{i=1}^j \lambda_i FCon_{cit} + \sum_{l=1}^m \alpha_l CCon_{ct} + \alpha_1 AR_{c,i,t-1} + \alpha_2 AR_{c,i,t-2} + \mu_{cit} \quad (3.4)$$

Return on assets (ROA) and Tobin's Q are the dependent variables, which are the book-based and market-based measurements of the firm performance respectively. In equations, the variable managerial efficiency is denoted by MB and managerial efficiency permanency (MBPF) is a slope dummy, which is the product of managerial efficiency (MB) and dummy variable (MBP) used to capture the managerial behavior permanency. MBP used 1 in case of the presence of the permanency and otherwise 0. As result, if the co-efficient of MBPF is positively significant, then the effect of managerial efficiency permanency on firm performance is significantly greater than the temporary managerial efficiency and vice versa. In the case of the insignificance of the co-efficient of MBPF, the results indicate that the effect of the managerial efficiency permanency on firm performance is similar to temporary managerial efficiency.

In the above models, the corporate governance index, other firm-specific variables, and country-level variables have also been used as control variables to avoid the biases of the results. At the firm level, the control variables are firm age, firm size, leverage, financial slack, sale growth, and sale volatility. Moreover, at the country level, country variables are the external mechanism of governance index, interest rate, exchange rate, GDP growth, and Foreign Direct Index (FDI) scaled by GDP.

3.4.3 Mediating Role of Earnings Quality in a Relationship of Managerial Efficiency with Firm Performance

The following equations from 3.6 to 3.12 have been used to test the mediating role of earnings quality in the relationship between managerial efficiency and firm performance measured by return on assets (ROA) and Tobin's Q (TQ).

3.4.3.1 Impact of Managerial Efficiency on Earnings Quality

$$ERQ_{cit} = \beta_{04} + \beta_{13}MB_{cit} + \alpha_1AR_{c,i,t-1} + \alpha_2AR_{c,i,t-2} + \mu_{cit} \quad (3.5)$$

3.4.3.2 Impact of Earning Quality on Firm Performance

$$\begin{aligned} TobinQ_{cit} = & \beta_{05} + \beta_{14}FRQ_{cit} + \sum_{i=1}^j \lambda_i FCOn_{cit} + \sum_{l=1}^m \alpha_1 CCOn_{ct} \\ & + \alpha_1 AR_{c,i,t-1} + \alpha_2 AR_{c,i,t-2} + \mu_{cit} \end{aligned} \quad (3.6)$$

$$\begin{aligned} ROA_{cit} = & \beta_{06} + \beta_{15}FRQ_{cit} + \sum_{i=1}^j \lambda_i FCOn_{cit} + \sum_{l=1}^m \alpha_1 CCOn_{ct} \\ & + \alpha_1 AR_{c,i,t-1} + \alpha_2 AR_{c,i,t-2} + \mu_{cit} \end{aligned} \quad (3.7)$$

3.4.3.3 Impact of Managerial Efficiency on Firm Performance

$$\begin{aligned} TobinQ_{cit} = & \beta_{07} + \beta_{16}MB_{cit} + \sum_{i=1}^j \lambda_i FCOn_{cit} + \sum_{l=1}^m \alpha_1 CCOn_{ct} \\ & + \alpha_1 AR_{c,i,t-1} + \alpha_2 AR_{c,i,t-2} + \mu_{cit} \end{aligned} \quad (3.8)$$

$$\begin{aligned} ROA_{cit} = & \beta_{08} + \beta_{17}MB_{cit} + \sum_{i=1}^j \lambda_i FCOn_{cit} + \sum_{l=1}^m \alpha_1 CCOn_{ct} \\ & + \alpha_1 AR_{c,i,t-1} + \alpha_2 AR_{c,i,t-2} + \mu_{cit} \end{aligned} \quad (3.9)$$

3.4.3.4 Impact of Managerial Efficiency and Earning Quality on Firm Performance

$$\begin{aligned} TobinQ_{cit} = & \beta_{09} + \beta_{18}MB_{cit} + \beta_{19}FRQ_{cit} + \sum_{i=1}^j \lambda_i FCOn_{cit} \\ & + \sum_{l=1}^m \alpha_1 CCOn_{ct} + \alpha_1 AR_{c,i,t-1} + \alpha_2 AR_{c,i,t-2} + \mu_{cit} \end{aligned} \quad (3.10)$$

$$\begin{aligned} ROA_{cit} = & \beta_{00} + \beta_{20}MB_{cit} + \beta_{21}FRQ_{cit} + \sum_{i=1}^j \lambda_i FCOn_{cit} \\ & + \sum_{l=1}^m \alpha_1 CCOn_{ct} + \alpha_1 AR_{c,i,t-1} + \alpha_2 AR_{c,i,t-2} + \mu_{cit} \end{aligned} \quad (3.11)$$

The study aimed to evaluate the mediating function of Earning Quality (ERQ) in the link between managerial efficiency (MB) and business performance in addition to capturing the moderating influence of the Corporate Governance Index (CGI). By following [Baron and Kenny \(1986\)](#); [Khan et al. \(2021a\)](#), three steps were applied to indicate the mediation role of Earning Quality (ERQ) in a relationship of managerial efficiency (MB) with firm performance. In the first step, a mediator is taken as a function of an independent variable. In the second step, a dependent variable is taken as a function of the mediator, and then the dependent variable

is taken as a function of an independent variable. If, in all, the coefficients of estimators are significant, then mediating effect of ERQ is existed. The fourth step is applied, where the dependent variable is taken as a function of independent and mediator. If the coefficient of an independent variable is found significant, then partial mediation of ERQ is there, and otherwise, full mediation is considered. Therefore, the above equations from equation 3.6 to equation 3.10 have been used to check the conditions of the Earning Quality as a mediator and after verifying the mediating role of Earning Quality empirically in the relationship between managerial efficiency and firm performance. Equations 3.11 and 3.12 have been used to test the partial or full mediation of the Earning Quality between managerial efficiency and firm performance. Moreover, both firm-specific and country-level variables have been used as control variables.

3.5 Measurement/Proxies of variables

This section mentions the operationalization of variables, including managerial efficiency, managerial efficiency permanency, corporate governance index, and earnings quality.

3.5.1 Measurement of Financial Performance (Dependent Variable)

The study's main goal is to identify how corporate governance, as evaluated by the board structure index, moderates the link between management conduct and business performance as well as the mediating function that Earning Quality plays in that relationship. Therefore, the dependent variable is firm performance, and by following Iqbal, Gan, and Nadeem (2020), two measurements of firm performance have been used in the study. One measurement is a book-based proxy, i.e., return on assets (ROA), and another is a market-based proxy, i.e., Tobin's Q (TQ). The different financial ratios are used to measure a company's financial performance, e.g., sale growth, return on assets (ROA), and return on equity (ROE). Although ROA may not accurately reflect an asset's full earning potential, still, it is the most

useful, generally accessible, and popular way to gauge an organization's success (Benner and Veloso, 2008).

The advantage of this metrics is that it is widely used to capture the firm performance, but creative accounting, figure manipulations, and use of accounting technique make it challenging to compare financial performance with other proxies (Chenhall and Langfield-Smith, 2007). Return on assets is used to check the ability of the total assets to generate profit, so the measurement of the outcome of utilization of the resource is the objective of this measurement. Moreover, the explanatory variable of the study is managerial efficiency in terms of the utilization of skills and resources of the firm to maximization of the shareholders' wealth. Both accounting-based and market-based measurements are part of this study. According to Alajlani, (2019) short-term financial performance is predicted by accounting-based performance measurements, whereas long-term financial performance is predicted by market-based performance metrics. Both returns on assets and Tobin's Q are the measurement of firm performance, which are mostly used especially in corporate governance-related studies (Clacher et al., 2008; García-Meca et al., 2015).

Return on assets measures the accounting or book-based performance as the data of return on assets is taken from a company's book of accounts (Financial statements). The following formula is used to measure book-based firm performance.

$$ROA_{c,i,t} = \frac{Net\ Income\ or\ Loss_{c,i,t}}{Total\ Assets_{c,i,t}}$$

The measurement of return on assets (ROA) is the scaled value of net income or loss by total assets of country c, firm (i) at year (t).

The market-based measurement of a firm's performance is Tobins'Q (TQ), which has been used as the robustness of the study. Tobins'Q is measured by adding the book value of debt to the market value of equity and scaled by total assets (Ibrahim and Samad, 2011; Yakob and Abu Hasan, 2021). So, by using the following formula, Tobin's Q is determined.

$$TQ_{c,i,t} = \frac{(Market\ value\ of\ the\ equity\ +\ Book\ value\ of\ debt)_{c,i,t}}{Total\ Assets_{c,i,t}}$$

3.5.2 Measurement of Managerial Efficiency (Independent Variable)

Corporate managers contribute significantly to a company's production process as one sort of labor input (Jensen and Meckling, 1976). They coordinate company resources, carry out business operations, make many decisions Fama and Jensen (1983) and have a variety of managerial skills, which contribute to firm performance (Bertrand and Schoar, 2003). In a past study, managerial efficiency, in terms of managerial ability and skills has been used as an independent variable (Demerjian et al., 2013; Leverty and Grace, 2012).

Alternative metrics of managerial efficiency include media citations of managers Francis et al. (2008) and pay for performance sensitivity (Milbourn, 2003). However, these measurements only consider managers' characteristics and ignore important firm-wide factors. In addition, they do not reflect actual management conduct but how it is perceived. However, Demerjian et al. (2012) measurement of managerial efficiency based on DEA depicts managerial performance in terms of output while employing constrained resources, which are products of managers' experiences and psychological characteristics. Before the foundational work of Demerjian et al. (2012), quantifying management effectiveness was a complex undertaking because of managerial observable (education and experience, etc.) and unobservable (cognitive and emotional intelligence) skills. In this study, the term managerial efficiency is used to cater to both skills, as the measurement of managerial efficiency is based upon the input and output proxy. The proxy gives the results of managerial efficiency in terms of skills and utilization of the skills.

The data envelopment analysis (DEA) model, which was taken from the work by Demerjian et al. (2012), has been used to gauge management effectiveness. The underlying premise of this model is that if the production rate can be increased while utilizing fewer resources by the management. This method's benefit is that it measures the input-output-based performance and takes various inputs and outputs into account simultaneously (Lee et al., 2018).

First, the firm efficiency has been measured by solving the following optimization problem for each firm (i) at year (t).

$$Maximum_v\theta = \frac{Sales}{v_1COGS + v_2SGAE + v_3PPE + v_4INT} \quad (3.12)$$

COGS is used for the Cost of goods sold, PPE is the representation of property, plant, and equipment, and INT is used for intangible assets. Whereas, v_1, v_2, v_3 , and v_4 are weights of the usage of the respective inputs.

TABLE 3.1: Summary for Inputs and Outputs Used in Equation 3.12

Inputs	Description	Source
Cost of inventory (Cost of goods sold), Selling, General and administrative expenses (SGAE), net PPE, and intangible assets.	All these inputs (CGS, SGAE, PPE, and intangible assets) are the contributing inputs to a generation of revenue, and these all depend upon the manager's discretion to use them; therefore, these are influenced by managerial ability and behavior to use them.	Cho, Choi, and Kim (2018); Park and Song (2019)
Output	Description	Source
Revenue (Net sale)	Net sales or revenue will be taken from the income statements of the firms	Cho, Choi, and Kim (2018); Park and Song (2019)

Table No.3.2 elaborates all inputs and outputs (Variables) used in equation-xiii to capture the firm efficiency.

Afterward, in the second step, firm efficiency has been taken as a function of firm-specific characteristics (firm size, firm market share, Free cash flow, operational complexity, and foreign operations) as demonstrated in Equation No. xiv.

$$\begin{aligned} \text{Firm efficiency}_{it} = & \beta_0 + \beta_1 \text{Ln (Total Assets)} + \beta_2 \text{Market Share} + \beta_3 \text{FCF} \\ & + \beta_4 \text{BSeg} + \beta_5 \text{FgnCurrency} + \epsilon_{it} \end{aligned} \quad (3.13)$$

The residual values have been obtained by regressing the above Equation (xiv) for each year (t) and each firm (i), representing the managerial efficiency in terms of their efficiency, ability, and performance.

TABLE 3.2: Summary for variables will be used in Equation No. 3.13

Variables	Explanation
Firm efficiency	Determined by DEA (By using Equation 3.13)
Market Share	Firm Revenue/Total Revenue of industry
FCF	1 if Free Cash flow (FCF) is positive; otherwise, 0.
Firm size	Natural log (Total assets)
Business segment (Bseg)	Business segment: the sum of the squares of (Firm sales in each geographic segment) divided by the square of the total firm sales. The sales data in each segment has been collected Segment from S&P Global.
FgnCurrency	Foreign currency translation is a sum of all gains and losses from foreign currency translations and transactions scaled by total revenue and the absolute is taken of the resultant (Park and Song, 2019). The data for foreign currency translation has been taken from WRDS.

3.5.3 Measurement of Managerial Efficiency Permanency (Independent Variable)

First, the managerial efficiency score for all companies of selected countries has been calculated by applying Data Envelopment Analysis (DEA) based on Input and Output as mentioned in the measurement of managerial efficiency. Afterward, the requirement of managerial efficiency Permanency or continuity was carried out by following Jeong et al. (2018) and Noor et al. (2020), but they applied this method to determine CSR permanency. managerial efficiency permanency has been measured using a dummy variable, 1 if the managerial efficiency score is equal to or more than 3 times over the most recent four years and otherwise 0. Furthermore, another variable (MBPF) has been developed by multiplying the managerial efficiency score by this dummy variable at the firm-year level. So, the managerial efficiency permanency (MBPF) obtained by $MB * MBP$ as MBP is a dummy variable showing 1 if managerial permanency is there; otherwise, 0. Whereas the MB shows the managerial efficiency score and MBP is a dummy variable showing managerial efficiency permanency for firm-year level, and the product of both ($MB * MBP$) is the measurement of managerial efficiency permanency

score at firm-year level.

3.5.4 Measurement of Corporate Governance Index through PCA (Moderating Variable)

The study used panel data, which was collected from 492 companies listed on the stock exchanges of lower-income emerging economies in South Asia (Pakistan, India, and Bangladesh). Moreover, in south Asia, these three countries have consistency in the corporate ownership structure (Bae et al., 2018). According to Gomez-Mejia et al. (2001), family owned companies have greater agency costs as a result of keeping inefficient family members in management. Due to the interpersonal relationships, family businesses have been reported to be reluctant to terminate incompetent family members. As a result, agency charges can boost and diminish a company's efficiency (Yousaf et al., 2019). Therefore, in the study, family ownership and audit quality have not been added in corporate governance index

In emerging economies, an effective board structure and its composition are considered an essential component of corporate governance to protect the rights of the shareholders Jackling and Johl (2009), and due to which, one dimension of corporate governance, i.e., Board Structure has been taken as a proxy of corporate governance. Abdou et al. (2021) used the board's characteristics (Board Size, Board Independence, Gender Diversity, and Duality) to measure corporate governance. However, the study used board size, board independence, and board meetings to measure corporate governance. The duality and female representation on board have not been considered as duality is a dummy variable, and very little female representation is on board in Pakistan. So, the doubt of the results biases was high while constructing the board structure index. Therefore, we dropped two sub-variables, duality and gender diversity, and added other aspects, i.e., board meetings, so that the operational aspects of the board may be included. Afterward, by following Larcker et al. (2007); Roy (2018), a corporate governance index is established based upon principal component analysis (PCA) to summarize the information in one variable. The information for each characteristic of board

structure has been obtained by using:

$$\text{Board Size}_{c,i,t} = \text{natural log} (\text{Number of board directors}_{c,i,t})$$

The second characteristic of board structure is used as board independence, which is measured as:

$$\text{Board Independence}_{c,i,t} = \frac{\text{Number of non - executive outside directors}_{c,i,t}}{\text{Total number of board directors}_{c,i,t}}$$

The board meeting is measured by using the percentage attendance of the board of directors in the meetings held during the year (t), of the firm (i) of a country (c).

Finally, the corporate governance index consists of the sub-variables: board size, board independence, and board meetings. The index has been constructed based on principal component analysis (PCA). The purpose of all characteristics is to provide information about governance at the firm level. Therefore, the study intended to make a bunch of all six indicators by applying principal component analysis as it provides significant and collective information (McNamara and Duncan, 1995), and it also helps in minimizing the multi-co-linearity issue, which further mitigates the statistical biases (Issah and Antwi, 2017). Andreica et al. (2010) discussed that Principal Component Analysis (PCA) wraps only those dimensions with more contribution without losing relevant information, and other useless dimensions are dropped. The following Equation is used to construct the index using principal component analysis (PCA).

$$\text{PCA Index} = (\text{Feature Vector})^T X \text{ (Standardized value of data)}$$

The covariance between the dimensions used to build the index and Eigenvectors is utilized to create the feature vector (Components). The following formula is used to get a standardized value.

$$Z = \frac{\text{Orginal Value} - \text{Mean value}}{\text{standard deviation}}$$

The PCA index results from the feature vector's transposition and the standardized data set values' transposition. The index may have negative values, the negative values indicate the poor governance and positive value are showing good governance.

3.5.5 Measurement of Earning Quality (Mediating Variable)

Following [Biddle et al. \(2009\)](#) and [Chen et al. \(2011\)](#), three different proxies, first the [Kor and Mahoney \(2005\)](#) discretionary accruals model, second the [McNichols \(2002\)](#) discretionary revenue model, and third the [Dechow and Dichev \(2002\)](#) accrual model that was further modified by [McNichols \(2002\)](#) and [Francis et al. \(2005\)](#) have been used to measure the quality of the earnings quality. Afterward, the normalized data from each proxy and the average of three proxies are measured for further analysis ([Biddle and Hilary, 2006](#)).

The first proxy of earnings quality is denoted by ERQ-1, for which the values have been obtained by using the discretionary accruals model, developed by [Kothari et al., \(2005\)](#); -

$$\text{Total Accruals}_{it} = \beta_0 + \beta_1 \frac{1}{\text{Assets}_{i,t-1}} + \beta_2 \Delta \text{Sale}_{it} + \beta_3 \text{PPE}_{it} + \beta_4 \text{ROA}_{it} + \epsilon_{it} \quad (3.14)$$

Whereas

$$\text{Total Accruals}_{it} = \frac{\text{Non cash CA}_{it} - \Delta \text{Non interest bearing CL}_{it} - \text{DA}_{it}}{\text{Total Assets}_{i,t-1}}$$

ROA is representing the returns on assets, ΔSales_{it} is the measure of the change in the sale, PPE_{it} is showing the property plant and equipment, Non-cash CA_{it} measures the non-cash current assets, $\Delta \text{Non interest bearing CL}_{it}$ measures the change in non-interest-bearing current liabilities, DA_{it} is depreciation and amortization for a firm (i) at year t.

Residual values from Equation 3.15 have been obtained, and the modulus of these

residuals and multiplying by -1, are values of the ERQ-1. A higher value means earnings quality (ERQ-1) is good.

The second measurement of Earning Quality is ERQ-2, which has been obtained by following McNichols and Stubben's (2008), discretionary revenue model: -

$$\Delta \text{Account Receivable}_{it} = \beta_0 + \beta_1 \Delta \text{Sale Revenue}_{it} + \epsilon_{it} \quad (3.15)$$

Where both change in account receivable and change in sale revenue are scaled by lagged total assets and the residual values from equation 3.16 have been taken, and then the modulus of these residuals are multiplied by -1. A higher value of discretionary revenue means Earning quality (ERQ-2) is on the higher side.

The third proxy is ERQ-3 for which the values have been obtained by following the Dechow and Dichev (2002) model, which is further modified by McNichols (2002); Francis et al. (2005) and is as follows: -

$$\text{Total Accruals}_{it} = \beta_0 + \beta_1 \text{OCF}_{i,t-1} + \beta_2 \text{OCF}_{it} + \beta_3 \text{OCF}_{i,t+1} + \beta_4 \Delta \text{Rev}_{it} + \beta_5 \text{PPE}_{it} + \epsilon_{it} \quad (3.16)$$

Whereas

$$\text{Total Accruals}_{it} = \frac{\Delta \text{Non cash CA}_{it} - \Delta \text{Current Non - interest bearing CL}_{it}}{\text{Total Assets}_{i,t-1}}$$

OCF is operating cashflows, ΔRev_{it} measures the change in revenue, PPE_{it} Property plant and equipment, Non-cash CA_{it} measures the non-cash current assets, Non interest bearing CL_{it} measures the change in non-interest-bearing current liabilities. Residuals from Equation 3.17 have been taken, and the modulus of these residuals is multiplied by -1. A higher value means (ERQ-3) is on the higher side. Finally, the data of ERQ-1, ERQ-2, and ERQ-3 were normalized, and then the average was obtained.

$$\text{ERQ} = \text{Average value of (ERQ1, ERQ2, and ERQ3)}$$

3.6 Control Variables

Control variables have their significance as they mitigate the results' biasedness (García-Sánchez, 2020). Controlling for any omitted variable biases is the main reason for incorporating the control variables (Nguyen et al., 2015). In the study, the dependent variables (Return on assets and Tobins'Q) are also controlled by both firm-specific and country-specific variables to minimize the biases of the results.

3.6.1 Firm-Specific Control Variables

In previous studies firm size, sale growth, and leverage were also used as control variables (Anderson and Reeb, 2003; Munjal et al., 2019; Iqbal et al., 2020). The following are the measurements of the control variables. Firm size is measured by using the natural log of total assets.

$$FSize_{c,i,t} = \text{natural log} (Total\ Assets_{c,i,t})$$

The firm age is measured by taking the number of years since the company is incorporated and showing a significant relationship with firm performance (Ibrahim, 2011). By following Moradi et al. (2021), the firm age is measured as:

$$Fage_{c,i,t} = \text{natural log} (Number\ of\ year\ of\ corporation_{c,i,t})$$

Leverage is measured by taking the long-term debt and scaled by total assets (Zhang and Ayisi 2020). Thus, the leverage is measured by using the following formula.

$$Leverage_{c,i,t} = \frac{Debt_{c,i,t}}{Total\ Assets_{c,i,t}}$$

The sale growth directly contributes to increasing the profitability of a company due to which the company can generate its internal financing and become less dependent on an external source of financing. By following Moradi et al. (2021),

sale growth is measured as the percentage change in the sale of the current year from the sale of last year:

$$SG_{c,i,t} = \frac{S_{c,i,t} - S_{c,i,t-1}}{S_{c,i,t-1}}$$

SG is sale growth, $S_{(c,i,t)}$ is sale of country c, firm i and at year t, $S_{(c,i,t-1)}$ is the sale of country c, firm i and at year t-1.

The study also used another control variable that is volatility in the sale as it measures the risk in the sale of a company, which ultimately influences the firm performance. According to [Lefebvre \(2022\)](#), the sale volatility is measured as the standard deviation of the annual sale of the firms. The sale volatility (SV) is measured by using the standard deviation in the series of the sale of the company. The sale of lagged 3 years has been used to measure the sale volatility.

$$SV_{c,i,t} = \sqrt{\frac{\sum (Sale - Average\ sale)^2}{n}}$$

In the above formula, the sum of the square deviation of the sale from the average of the last 3 years and one current year have been taken, which is further divided by $n=4$ and finally, the square root has been taken.

Financial slack is another controlling variable, which shows the usage of cash as compared to total assets or property plant, and equipment. [Munjal et al. \(2019\)](#) also used it control variable and reported the positive influence of slack on firm performance. The slack is measured as:

$$Slack_{c,i,t} = \frac{Cash_{c,i,t}}{Property\ Plant\ and\ Equipment_{c,i,t}}$$

The data of the firm-specific variables have been collected from Wharton Research Data Services (WRDS).

3.6.2 Country Level Control Variables

In the study, country-level governance and macroeconomic variables have also been taken as control variables. Following, [Kaufmann et al., \(2011\)](#), country-level

governance has been a part of the control variables, in the study, the index has been constructed based on PCA by incorporating the governance indicators, which are Control of Corruption (COC), Government Effectiveness (GEF), Regulatory Quality (REGQ), Voice and Accountability (VAC), Rule of Law (RUL) and Political Stability and Violence (PAC). Due to the higher and significant correlation between these governance indicators [Globerman and Shapiro \(2002\)](#) and to avoid the issue of multi-co-linearity, the index of these indicators has been constructed. The other country-specific control variables are interest rate, GDP growth, and exchange rate (Iqbal, Gan and Nadeem, 2020). Foreign direct investment scaled by GDP is also necessary to boost the economy (Lu, Tao and Zhu, 2017), ultimately contributing to firm performance.

Table 3.4 demonstrates the summary of all variables used in the study, along with the abbreviation and explanation of the variables.

TABLE 3.3: Summary of the Measurement of Variables

S.No.	Variable	Abbreviation	Explanation
Dependent Variable			
1	FP	Firm Performance	Tobin-q (TQ) and Return on Assets (ROA) are the measurements of firm performance Tobin-q is calculated by taking the sum of both market capitalization and debt book value and further results are scaled by total assets Return on assets is determined by scaling the net profit with total assets.
Independent Variables			
2	MB	Managerial Efficiency	Managerial efficiency has been measured by using Data Envelopment Analysis (DEA). MA-Score measurement is a residual of the firm efficiency model developed by Demerjian et al. (2012) by using DEA
3	MBPF	Managerial Efficiency permanency	First, the Managerial Efficiency score has been captured using DEA at the firm-year level. Afterward, Managerial Efficiency permanency has been measured using a dummy variable, 1 if managerial efficiency is equal to or more than 3 times over the most recent four years and otherwise 0. Finally, a new variable MBPF is developed by taking the product of both series. managerial efficiency and managerial efficiency permanency (Dummy variable) and MBPF are used in the model.
Moderating Variable			
4	CGI	Corporate Governance Index	Board size, Board Meetings, Board independence. The corporate governance index (CGI) has been constructed based on principle component analysis (PCA).

Mediating Variable			
5	ERQ	Earning Quality	<p>the ERQ index has been used as a proxy, which are the normalized values of the average of ERQ-1, ERQ-2, and ERQ-3.</p> <p>ERQ-1 was measured by using the discretionary accruals model developed by Kothari et al, (2005).</p> <p>ERQ-2 was measured by using the discretionary revenue model of McNichols and Stubben (2008).</p> <p>ERQ-3 was measured by using the accrual model of Dechow-Dichev (2002), which is further modified by McNichols (2002) and Francis et al. (2005).</p>
Control variables at the Firm Level			
6	FAage	Firm Age	Natural Log (No. of the year of a corporation)
7	FSize	Firm size	Natural log (Total Assets)
8	SG	Sale growth	Sale growth
9	SV	Sale volatility	The standard deviation of the last three years' sale
10	Slack	Financial Slack	Cash to PPE (Property, plant, and equipment)
11	Lev	Leverage	Debt/Total assets
Control variables at Country Level			
12	IRL	Interest Rate	Averagely Annual Interest Rate for the year t each country collected from World Bank Database
13	ER	Exchange Rate	The average annual exchange rate is US \$, for year t and each country. The natural log of the exchange rate has been taken to use in regression analysis.
14	GDPg	Gross Domestic Product growth rate	GDP annual growth rate at year t for each country. Data collected from the World Bank Database.
15	FDI	Foreign Direct Investment	Foreign direct investment and scaled by GDP. Data collected from World Bank Database.
Control variables at Country Level			
12	IRL	Interest Rate	Averagely Annual Interest Rate for the year t each country collected from World Bank Database
13	ER	Exchange Rate	The average annual exchange rate is US \$, for year t and each country. The natural log of the exchange rate has been taken to use in regression analysis.
14	GDPg	Gross Domestic Product growth rate	GDP annual growth rate at year t for each country. Data collected from the World Bank Database.
15	FDI	Foreign Direct Investment	Foreign direct investment and scaled by GDP. Data collected from World Bank Database.
16	GI	External Mechanism of Governance Index	Index of External Mechanism of Governance has been considered by formulating it through principal component analysis (PCA). The index has been constructed by incorporating the Control of Corruption (COC), Government Effectiveness (GEF), Regulatory Quality (REGQ), Voice and Accountability (VAC), Rule of Law (RUL), and Political Stability and Violence (PAC). The data of the indicators have been gathered from Worldwide Governance Indicators.

3.7 Statistical Techniques

In the research balance panel data has been used for a period of 11 years (2009-2019) in the pooling of 492 companies listed on stock exchanges of three emerging economies. In the case of separate country-wise analysis, the study also used balance panel data. The study carried out the following research techniques to analyze the data and test the hypotheses.

3.8 Descriptive Statistics

Before testing the hypothesis, the descriptive statistics for each variable have been presented. The average value measured by mean and variation in the data of all variables has been shown by standard deviation. The minimum and maximum values are also presented in descriptive statistics. In the study, descriptive statistics have been presented for all variables in the scenario of all three emerging economies (Pakistan, India, and Bangladesh). The average value (mean value) is measured by taking the sum of all values and dividing it by the number of all observations.

$$\text{Arithmetic Mean} = \frac{\sum X}{n}$$

$\sum X$ shows the sum of all variable values, and n is the number of observations.

The variation in the data has been determined by using standard deviation. The standard deviation is calculated by taking the sum of the square of the deviation from the mean and divided by the number of observations. Finally, the square root is taken from the results.

$$S.D = \sqrt{\frac{\sum (X - \text{mean})^2}{n}}$$

Moreover, in descriptive statistics, the minimum and maximum values of all variables have also been demonstrated to identify the range of the series.

3.8.1 Correlation Analysis

Correlation analysis is used in the study to show the link between the variables. The assessment of the link between the variables is the coefficient of correlation. The coefficient of correlation has a value from -1 to 1. A poor correlation between the variables is indicated by a coefficient of correlation value that is closer to zero. Moreover, the value of the coefficient of correlation closer to -1 or 1 shows a strong relationship. Correlation between the explanatory variables is also used to indicate the issue of multi-co-linearity and high correlation, i.e., if more than 0.90 is there between the independent variables, then it indicates the issue of multi-co-linearity (Hair et al., 2010).

3.8.2 System Generalized Methods of Moments (GMM)

In the study, balance panel data was used in the case of both country-wise analysis and pooling of companies from all three countries. First of all, the panel unit test has been applied to test the stationarity of the data and found that all variables are stationary at a level $I(0)$, which indicates that regression analysis should be used. Afterward, the endogeneity test has been applied in the context of all three countries and in the case of pooling of companies. The results confirm the presence of endogeneity. Therefore, the application of standard panel OLS like Fixed effect or Random effect models is not appropriate as these do not address the issue of endogeneity (Chatterjee and Nag, 2022). Wintoki et al. (2012) identified while testing the governance and performance relationship, three various causes of the endogeneity, which are simultaneity, unobserved heterogeneity, and dynamic endogeneity. They elaborated that simultaneity refers to the interdependence of two variables, dynamic endogeneity is due to the current value of the dependent variable being impacted by the lagged value and unobserved heterogeneity means the unobserved factor influences the relationship of two variables.

The problem of endogeneity in panel data is controlled by applying dynamic panel analysis, also called the generalized method of moments (GMM) (Ullah et al., 2018; Tzouvanas et al., 2020). The generalized method of moments is a technique, which resolves the issue of endogeneity by taking the lagged dependent variable

and endogenous variables with proper lags as instrumental variables (Chatterjee and Nag, 2022).

Therefore, Generalized Methods of Moments (GMM) have been applied to address the problem of endogeneity (Coban and Topcu, 2013; Busch and Lewandowski, 2018), and endogeneity may arise because of simultaneity or bias of omitted variable (Tzouvanas, Kizys, Chatziantoniou and Sagitova, 2020). The generalized method of moments has two types, which are difference GMM and another one is system GMM. In difference GMM, the differenced equations are taken only, while in system GMM both difference and level equations are considered. Moreover, due to small period, the persistence of the outcome variable and autoregressive term are strongly correlated, in this case system GMM is more appropriate to apply (Blundel and Bond, 1998). The GMM is suitable to control the various kinds of the endogeneity and it controls the three main types of the endogeneity that are dynamic endogeneity, simultaneity and unobserved heterogeneity and the validity of the GMM depends upon the Sargan test, and it validate the specification of the instruments and the model (Ullah, Akhtar and Zaefarian, 2018).

The study applied the system Generalized Method of Moments by following Arellano and Bover 1995; Blundell and Bond 1998. Generalized Method of Moments (GMM) estimator validation is based upon two criteria (Asimakopoulos, Asimakopoulos and Fernandes, 2019). First, the test of the existence of serial nth-order correlation and the null hypothesis is that there is no serial correlation of the differenced error terms. The second is applying the Sargan test to test whether the overidentifying restrictions are valid. In the study, both criteria of GMM have been tested. AR (1) and AR (2) have been added to the model, and in each model, it has been found that AR (2) is insignificant with a p-value greater than 0.05, which means at lag-2 no serial correlation exists in the model and it has been addressed. The results of the Sargan test in all study models have a probability greater than 0.05, which validates the instrumental overidentifying restrictions.

Chapter 4

Results and Discussion

This chapter is about the results obtained by applying the suitable technique, i.e., System GMM, to test the hypothesis. The results for descriptive statistics and correlation analysis have also been described in this chapter. Discussion of the results is also part of this chapter.

4.1 Descriptive Statistics

From Table-4.1 to Table-4.3, the results for descriptive statistics are shown in Pakistani, Indian, and Bangladeshi contexts, respectively. In descriptive statistics, the average value measured by arithmetic mean and the variation measured by standard deviation has been mentioned. Moreover, in descriptive statistics, both the maximum and minimum values for all variables of the study have been explained.

4.1.1 Descriptive Statistics in Pakistani Context

In the Pakistani context, the results of the descriptive statistics show that the return on assets (ROA) has a mean value of 0.0547, which means the average return on assets (ROA) is 5.47%, with a value of the standard deviation of 0.0749. The standard deviation indicates that the average value of return on assets may differ up to 0.0749 from year to year and from company to company. The minimum return (loss) on assets (ROA) is found to be -0.564 (56.4%), and the maximum

TABLE 4.1: Descriptive Statistics in the Pakistani Context

	Mean	Maximum	Minimum	Std. Dev.
ROA	0.0547	0.1996	-0.5641	0.0749
TQ	6.221	12.9614	0.5073	1.7976
MB	0.0003	0.718	-0.4855	0.1217
MBPF	0.0183	0.718	-0.3573	0.0694
ERQ	-0.0841	-0.0021	-1.8052	0.1081
CGI	0.0047	3.3371	-1.8411	1.094
FAGE	3.5023	7.6084	0.6931	0.5811
FSIZE	15.6275	20.4575	10.5913	1.6685
SG	0.0634	0.7225	-3.2427	0.2627
SV	13.716	18.5323	7.2557	1.7024
SLACK	0.1045	0.46	0.0045	0.1079
LEV	0.1979	0.6874	0.0211	0.1516
GI	0.0025	2.2424	-2.4307	1.5639
IR	11.6435	14.5375	8.21	2.2936
ER	103.1608	150.0363	81.7129	18.4196
GDPG	3.8701	5.8364	1.1448	1.5424
FDI	0.7812	1.3904	0.3828	0.2741

Note: ROA=Return on assets, TQ=Tobin's Q, MB=Managerial Efficiency, MBPF=Managerial Efficiency Permanency, ERQ=earning quality, CGI=Corporate governance index, Fage=Firm Age, Fsize=Firm size, SG=Sale growth, SV=Sale volatility, Slack=Financial slack, Lev=Leverage, GI=Governance index, IR=Interest rate, ER=Exchange rate, GDPG=Gross domestic product growth, FDI=Foreign direct investment to GDP

return on assets is reported as 7.49%. The average value of Tobin's Q is found as 6.2210, which is a market-based proxy of firm performance with a variation determined by a standard deviation of 1.7976. This standard deviation indicates that Tobin's Q may change from firm to firm or from year to year up to 1.7976 points from this average value of TQ. The maximum value of Tobin's Q is 12.9614, and the minimum is 0.5073 points.

The descriptive statistics also show that managerial efficiency (MB) measured using the data envelopment analysis has an average value of its efficiency as 0.0003 with a standard deviation of 0.1217. Likewise, values of managerial efficiency were reported in prior studies (Demerjian et al., 2012). Similarly, managerial efficiency permanency is taking just those values of Managerial Efficiency, where permanency was found, and it is calculated by multiplying the managerial efficiency and dummy variable of permanency of Managerial Efficiency. The results further indicate that the average value of the earning quality index (ERQ) is -0.1024. Following Biddle et al. (2009), the earning quality index was calculated, and the average index

was found as -0.1024 with variation measured by a standard deviation is 0.0937, which indicates that the index may change from year to year or firm to firm up to 0.0937 points. The average corporate governance value is 0.0047 with a Standard deviation of 1.0940. Similarly, the average value of all firm-specific, country-level governance and macroeconomic variables are reported in the above table, along with variation in the data. The standard deviation for all variables has measured the variation in the data.

4.1.2 Descriptive Statistics in Indian Context

TABLE 4.2: Descriptive Statistics in Indian Context

	Mean	Maximum	Minimum	Std. Dev.
ROA	0.0848	0.9237	-0.8436	0.0886
TQ	6.8923	14.0807	0.034	1.6723
MB	0.0205	1.4293	-0.7036	0.1871
MBPF	0.0239	0.7116	-0.3198	0.0956
ERQ	-0.1024	-0.0048	-1.3859	0.0937
CGI	0.0001	2.8841	-4.6938	1.0622
FAGE	3.5909	5.0499	1.0986	0.5731
FSIZE	17.2844	21.9771	12.9861	1.4822
SG	0.1187	0.866	-0.5706	0.1622
SV	15.1908	20.7847	7.0623	1.5587
SLACK	0.1231	0.6318	0.0103	0.1282
LEV	0.1954	0.6861	0.0188	0.1562
GI	0.0001	3.6426	-2.3876	1.9038
IR	9.9948	12.1875	8.3334	0.9065
ER	59.0132	70.4203	45.7258	8.6646
GDPG	6.7705	8.4976	4.0416	1.3491
FDI	1.7884	2.6516	1.3129	0.3529

Note: ROA=Return on assets, TQ=Tobin's Q, MB=Managerial Efficiency, MBPF=Managerial Efficiency Permanency, ERQ=earning quality, CGI=Corporate governance index, Fage=Firm Age, Fsize=Firm size, SG=Sale growth, SV=Sale volatility, Slack=Financial slack, Lev=Leverage, GI=Governance index, IR=Interest rate, ER=Exchange rate, GDPG=Gross domestic product growth, FDI=Foreign direct investment to GDP

The results of descriptive statistics in respect of the Indian context disclose that average firm performance measured by return on assets (ROA) is 8.4%, with a standard deviation value of 0.0886. The standard deviation value depicts that the average value of return on assets may vary up to 0.0886 points from year to year

and from company to company. The lowest value of a loss on assets is found at -0.8436, and the most outstanding value is found at 0.9237. The average value of another measure of firm performance, i.e., Tobin's Q (TQ), is found as 6.8923 times with a value of the standard deviation of 1.6723, which indicates that the value of Tobin's Q may differ up to 1.6723 points from time to time and firm to firm. Tobin's Q's minimum and maximum values are disclosed as 0.0340 and 14.0807, respectively. The averagely managerial efficiency value in the context of 0.0205 with a standard deviation of 0.1871, so the value of managerial efficiency may deviate averagely up to 0.187. The minimum and maximum managerial efficiency values are found at -0.7036 and 1.4293.

A previous study has observed similar managerial efficiency results [Demerjian et al. \(2012\)](#). managerial efficiency permanency measured by dummy variable and another multiple by managerial efficiency shows average managerial efficiency permanency (MBPF) as 0.0239 with variation in data up to 0.0956 points measured by standard deviation. The earning quality index has an average index of -0.1024, and the average variation in the data of earning quality (ERQ) measured by standard deviation is found as 0.0937, which expresses that the earning quality index may deviate averagely from year to year and from company to company up to 0.0937 points. The results further indicate that the average corporate governance index measured by principal component analysis (PCA) and by incorporating the board size, board independence, and board meetings is 0.0001. The average variation in the corporate governance index (CGI) data is determined as 1.0622, indicating that the corporate governance index (CGI) may variate up to 1.0622 points for the company (i) at year (t). The table has also reported the maximum and minimum values of all variables. Moreover, representation of the firm-specific, country-level governance and macroeconomic control variables have also been reported using mean values, and variation in the data of control variables has also been shown by using standard deviation.

4.1.3 Descriptive Statistics in the Bangladeshi Context

In the Bangladesh scenario, the results of the descriptive statistics are reported with outcomes that return on assets (ROA) has a mean value of 0.0926. This

value depicts that the average return on assets (ROA) is found as 9.26%, and the standard deviation value is determined as 0.0947. The standard deviation indicates that the average value of return on assets may change up to 0.0947 from year to year and from company to company.

TABLE 4.3: Descriptive Statistics in the Bangladeshi Context

	Mean	Maximum	Minimum	Std. Dev.
ROA	0.0926	0.489	-0.1228	0.0947
TQ	6.9634	10.8274	1.4142	1.2081
MB	-0.0001	0.6207	-0.4848	0.2241
MBPF	0.0153	0.6207	-0.3487	0.0986
ERQ	-0.1668	-0.0076	-7.9109	0.3508
CGI	0.0001	3.7462	-21.6485	1.0706
FAGE	3.0259	4.7005	0.6931	0.6187
FSIZE	15.1442	19.7331	10.157	1.6729
SG	0.0824	0.5277	0.2983	0.2025
SV	14.9644	18.2115	9.83	1.3849
SLACK	0.1373	0.7539	0.0104	0.1592
LEV	0.14	0.8804	0.0114	0.128
GI	0.0001	2.2405	-2.7902	1.7352
IR	11.8377	13.9442	9.54	1.6696
ER	77.7473	84.4535	69.0391	4.8348
GDPG	6.604	8.1527	5.0451	0.8987
FDI	0.1077	0.3646	0.007	0.1147

Note: ROA=Return on assets, TQ=Tobin's Q, MB=Managerial Efficiency, MBPF=Managerial Efficiency Permanency, ERQ=earning quality, CGI=Corporate governance index, Fage=Firm Age, Fsize=Firm size, SG=Sale growth, SV=Sale volatility, Slack=Financial slack, Lev=Leverage, GI=Governance index, IR=Interest rate, ER=Exchange rate, GDPG=Gross domestic product growth, FDI=Foreign direct investment to GDP

The minimum return (loss) on assets (ROA) is found to be -0.1228 (12.28%), and the maximum return on assets is reported as 48.90%. The average value of Tobin's Q is 6.9634, which is a market-based proxy of firm performance with a variation determined by a standard deviation of 1.2081. The standard deviation is 1.2081 points from this average value of TQ. The maximum value of Tobin's Q is 10.8274, and the minimum is 1.4243 points.

The descriptive statistics also show that managerial efficiency (MB) measured using the data envelopment analysis has an average value of its efficiency as 0.0003 with a standard deviation of 0.1217. Similarly, managerial efficiency permanency is taking just those values of managerial efficiency, where permanency was found, and it is calculated by multiplying the managerial efficiency and dummy variable of

permanency of managerial efficiency. The results further indicate that the average value of the earning quality index (ERQ) is -0.1024. Following [Biddle et al. \(2009\)](#), the earning quality index was calculated, and the average index was found as -0.1024 with variation measured by a standard deviation is 0.0937, which indicates that the index may change from year to year or firm to firm up to 0.0937 points. The average corporate governance value is 0.0047 with a Standard deviation of 1.0940. Similarly, the average values of all firm-specific, country-level governance and macroeconomic control variables have also been reported in the above table, along with average variation in the data using standard deviation.

4.1.4 Descriptive Statistics in Context of Pooling of All Companies from Pakistan, India, and Bangladesh

The following table 4.4 is about the descriptive statistics of the variables in the context of pooling of companies of all three countries.

TABLE 4.4: Descriptive Statistics in Context of Combine Countries

	Mean	Maximum	Minimum	Std. Dev.
ROA	0.074	0.9237	-0.8436	0.085
TQ	6.6411	14.081	0.034	1.6704
MB	0.0083	1.4293	-0.7036	0.1735
MBPF	0.0199	0.718	-0.3573	0.0869
ERQ	-0.1078	-0.0021	-7.9109	0.1826
CGI	0.0001	3.7462	-21.6485	1.076
FAGE	3.4421	7.6084	0.6931	0.6241
FSIZE	16.2049	21.98	10.157	1.8369
SG	0.0596	0.8700	-3.2427	0.2417
SV	14.5669	20.785	7.062	1.7294
SLACK	0.1163	0.7539	0.0054	0.1283
LEV	0.1857	0.8804	0.0114	0.1511
GI	0.0001	3.6426	-2.7902	1.7419
IR	11.0131	14.5375	8.2100	1.9192
ER	80.1847	150.0363	45.7258	23.6856
GDPG	5.5877	8.4976	1.1447	1.9453
FDI	1.0581	2.6516	0.0070	0.7130

Note: ROA=Return on assets, TQ=Tobin's Q, MB=Managerial Efficiency, MBPF=Managerial Efficiency Permanency, ERQ=earning quality, CGI=Corporate governance index, Fage=Firm Age, Fsize=Firm size, SG=Sale growth, SV=Sale volatility, Slack=Financial slack, Lev=Leverage, GI=Governance index, IR=Interest rate, ER=Exchange rate, GDPG=Gross domestic product growth, FDI=Foreign direct investment to GDP

The results are showing that the average return on assets of the pooling of companies from three emerging economies is 7.04% with a variation of 8.05% as measured by standard deviation. The average performance measured by Tobin's Q is 6.64 times of total assets with a variation of 1.6704 points. The average value of managerial efficiency in emerging economies is 0.0083 with a value of the standard deviation of 0.1735, which is the consistency of [Demerjian et al. \(2012\)](#). Similarly, the average earning quality index measured by following [Biddle et al. \(2009\)](#), an average value of managerial efficiency permanency measured by slope dummy of managerial efficiency and dummy of managerial efficiency permanency and corporate governance index measured by using PCA are presented with the average change in data measured by standard deviation. The descriptive statistics of control variables is showing that the firm age is 31.25 years [$\exp(3.4421)$].

Firm age was measured by taking the natural log of the number of years of a corporation, so at the end, an exponential of the mean value is taken, which indicates that the average age of companies listed on stock exchanges of three emerging economies is 31.25 years, however, it may differ from firm to firm and time to time as variation has been shown by standard deviation i.e. 0.6241. The firm size is measured by the natural log of total assets so the average firm size is 16.2049 with a standard deviation of 1.8369. Average sale growth is 4.5% with a high variation of 34.17%. The results are also showing the average sale volatility, which is showing the average business risk, average financial slack is 11.63% of property, plant, and equipment. The average leverage is 18.57 times of total assets.

The governance index has an average value of 0.0001, the average interest rate is 11.01% and the average exchange rate is 80.18 local currency per \$. The average GDP growth rate is 5.89% and the average foreign direct investment is 1.0581 times GDP. However, these are average values and these differ from country to country, firm to firm, and year to year, and dispersion in the data has been measured by standard deviation. Moreover, the minimum and maximum values for variables have also been mentioned in the results.

4.2 Correlation Analysis

In Tables 8-10, the results of correlation analysis have been reported in all three South Asian lower-income emerging economies (Pakistan, India, and Bangladesh). The results indicate the relationship between the variables of the study.

4.2.1 Correlation Analysis in the Context of Pakistan

The results show that return on assets (ROA) has positive relationships with Tobin's Q, managerial efficiency (MB), managerial efficiency permanency (MBPF), earning quality (ERQ), and negative with corporate governance index (CGI). Likewise, the results also show the relationship of return on assets with firm-specific, country-level governance (GI), and macroeconomic variables. Tobin's Q shows a positive relationship with managerial efficiency (MB), managerial efficiency permanency (MBPF), and corporate governance index (CGI), whereas Tobin's Q has a negative relationship with earning quality (ERQ). managerial efficiency also has a positive relationship with managerial efficiency permanency.

Additionally, all research variables are demonstrating a correlation with firm-specific variables (firm age, firm size, sale growth, sale volatility, financial slack, leverage), country-level governance index (GI), and macroeconomic factors (Interest rate, exchange rate, GDP growth, FDI). There is no serious issue with multi-co-linearity because there is a weak connection between all the explanatory and control variables. High correlation, or greater than 0.90 between explanatory variables, may result in a multicollinearity issue, according to (Hair et al., 2010).

4.2.2 Correlation Analysis in the Context of India

The results of the correlation analysis in the context of India show that return on assets (ROA) has positive relationships with Tobin's Q, managerial efficiency (MB), corporate governance index (CGI), and negative relationships with earning quality and managerial efficiency permanency (MBPF). Similarly, the results also show the relationships between return on assets and firm-specific, country-level governance (GI) and macroeconomic control variables. Tobin's Q shows a positive

TABLE 4.5: Correlation Analysis Pakistani Context

	ROA	TQ	MB	MBPF	FRQ	CGI	FAGE	FSIZE	SG
ROA	1								
TQ	0.046	1							
MB	0.060*	0.043	1						
MBPF	0.078*	0.017	0.632*	1					
ERQ	0.162*	-0.046	0.060*	0.061*	1				
CGI	-0.065*	0.019	-0.018	0.014	0.069*	1			
FAGE	0.014	0.064*	-0.057*	-0.012	0.041	0.054*	1		
FSIZE	0.185*	-0.288*	-0.057*	0.034	0.192*	0.179*	0.033	1	
SG	0.140*	0.053*	-0.027	0.01	0.011	-0.071*	-0.014	0.122*	1
SV	0.206*	-0.188*	-0.011	0.031	0.144*	0.136*	-0.019	0.842*	0.098*
SLACK	0.027	0.042	0.061*	0.078*	0.018	0.046	-0.102*	0.312*	0.060*
LEV	-0.162*	-0.01	0.042	0.023	-0.086*	0.024	-0.172*	-0.068*	-0.092*
GI	-0.013	0.006	-0.387*	-0.180*	-0.091*	0.018	0.104*	0.093*	0.006
IRL	-0.027	-0.060*	0.287*	0.015	0.017	-0.023	-0.077*	-0.069*	0.044
ER	-0.056*	-0.048	-0.227*	-0.086*	-0.160*	0.005	0.108*	0.095*	0.035
GDPG	0.059*	0.067*	-0.111*	0.03	0.083*	0.012	-0.013	-0.007	-0.023
FDI	-0.007	0.078*	0.058*	0.109*	-0.018	0.022	0.068*	0.055*	-0.082*
	SV	SLACK	LEV	GI	IRL	ER	GDPG	FDI	
SV	1								
SLACK	0.336*	1							
LEV	-0.106*	-0.022	1						
GI	-0.014	0.062*	-0.042	1					
IRL	0.032	-0.04	0.062*	-0.574*	1				
ER	0.023	0.054*	-0.019	0.502*	-0.022	1			
GDPG	-0.034	-0.008	-0.032	0.163*	-0.731*	-0.597*	1		
FDI	-0.02	0.053*	-0.033	0.407*	-0.483*	0.305*	0.069*	1	

Note: ROA=Return on assets, TQ=Tobin's Q, MB=Managerial Efficiency, MBPF=Managerial Efficiency Permanency, ERQ=Earnings quality, CGI=Corporate governance index, Fage=Firm Age, Fsize=Firm size, SG=Sale growth, SV=Sale volatility, Slack=Financial slack, Lev=Leverage, GI=Governance index, IR=Interest rate, ER=Exchange rate, GDPG=Gross domestic product growth, FDI=Foreign direct investment to GDP *** $P < 0.01$, ** $P < 0.05$, * $P < 0.1$

relationship with managerial efficiency permanency (MBPF) and corporate governance index (CGI), whereas Tobin's Q has a negative relationship with managerial efficiency and earning quality (ERQ). The results also show that managerial efficiency has positive relationships with managerial efficiency permanency and corporate governance index (CGI) but negative relationships with earning quality (ERQ). In addition, all variables of the study are also showing a relationship with firm-specific (firm age, firm size, sale growth, sale volatility, financial slack, leverage), country-level governance index (GI), and macroeconomic control variables (Interest rate, exchange rate, GDP growth, FDI). According to Hair et al. (2010), multicollinearity issues may arise when there is a strong correlation, or greater than 0.90, between explanatory variables. There is no serious issue with multicollinearity because all of the explanatory and control variables show a modest link

TABLE 4.6: Correlation Analysis Indian Context

	ROA	TQ	MB	MBPF	FRQ	CGI	FAGE	FSIZE	SG
ROA	1								
TQ	0.240*	1							
MB	0.001	-0.022	1						
MBPF	-0.033	0.037	0.515*	1					
ERQ	-0.119*	-0.132*	-0.011	0.024	1				
CGI	0.055*	0.092*	0.03	0.068*	-0.002	1			
FAGE	0.061*	0.132*	0.005	0.01	0.014	0.123*	1		
FSIZE	-0.143*	-0.282*	0.014	0.011	0.117*	0.059*	0.122*	1	
SG	0.091*	-0.005	0.005	0.028	-0.04	-0.074*	-0.169*	-0.065*	1
SV	-0.024	-0.216*	0.043*	0.016	0.039	-0.008	0.080*	0.821*	0.075*
SLACK	0.117*	0.151*	-0.008	0.015	-0.076*	-0.070*	0.004	-0.075*	-0.022
LEV	-0.324*	-0.242*	0	-0.011	0.085*	-0.012	-0.078*	0.283*	0
GI	0.013	0.121*	0.012	0.034	-0.012	0.101*	0.130*	0.181*	-0.105*
IRL	-0.011	-0.126*	-0.008	-0.082*	-0.002	-0.04	-0.075*	-0.111*	-0.019
ER	-0.021	0.101*	0.003	0.075*	0.044*	0.140*	0.170*	0.244*	-0.192*
GDPG	0.014	-0.033	0	-0.044*	0.006	-0.055*	-0.055*	-0.090*	-0.049*
FDI	0.014	-0.067*	-0.003	-0.078*	-0.03	-0.062*	-0.068*	-0.112*	-0.044*
	SV	SLACK	LEV	GI	IRL	ER	GDPG	FDI	
SV	1								
SLACK	-0.049*	1							
LEV	0.130*	-0.163*	1						
GI	0.093*	-0.063*	-0.071*	1					
IRL	-0.063*	0.026	0.045*	-0.354*	1				
ER	0.139*	-0.078*	-0.083*	0.683*	-0.266*	1			
GDPG	-0.102*	0.022	0.027	-0.217*	-0.029	-0.168*	1		
FDI	-0.098*	0.031	0.039	0.053*	0.574*	-0.254*	0.331*	1	

Note: ROA=Return on assets, TQ=Tobin's Q, MB=Managerial Efficiency, MBPF=Managerial Efficiency Permanency, ERQ=Earnings quality, CGI=Corporate governance index, Fage=Firm Age, Fsize=Firm size, SG=Sale growth, SV=Sale volatility, Slack=Financial slack, Lev=Leverage, GI=Governance index, IR=Interest rate, ER=Exchange rate, GDPG=Gross domestic product growth, FDI=Foreign direct investment to GDP *** $P < 0.01$, ** $P < 0.05$, * $P < 0.1$

to one another.

4.2.3 Correlation Analysis in the Context of Bangladesh

The results of correlation analysis in respect of Bangladesh demonstrate that return on assets (ROA) has positive relationships with Tobin's Q, managerial efficiency (MB), managerial efficiency permanency (MBPF), and earning quality (ERQ), and corporate governance index (CGI). The asset return also demonstrates the relationships between firm-specific, country-level governance (GI) and macroeconomic control variables. Tobin's Q shows a positive relationship with managerial efficiency (MB), managerial efficiency permanency (MBPF), and corporate governance index (CGI), whereas Tobin's Q has a negative relationship with earning

TABLE 4.7: Correlation Analysis Bangladeshi Context

	ROA	TQ	MB	MBPF	FRQ	CGI	FAGE	FSIZE	SG
ROA	1								
TQ	0.539*	1							
MB	0.366*	0.158*	1						
MBPF	0.223*	0.124*	0.450*	1					
ERQ	0.064*	-0.009	0.062*	0.02	1				
CGI	0.221*	0.094*	-0.024	-0.100*	-0.032	1			
FAGE	0.073*	-0.161*	-0.011	-0.125*	-0.045	0.03	1		
FSIZE	0.052	-0.471*	0.043	-0.054	0.078*	0.188*	0.109*	1	
SG	0.087*	-0.029	0.178*	0.035	0.021	-0.026	-0.004	0.186*	1
SV	0.064*	-0.170*	-0.097*	-0.064*	0.014	0.128*	0.179*	0.436*	-0.100*
SLACK	0.074*	-0.126*	0.189*	0.138*	-0.03	-0.037	0.103*	0.115*	0.033
LEV	-0.180*	-0.118*	-0.186*	-0.075*	0.072*	0.121*	-0.197*	0.197*	0.048
GI	0.121*	0.228*	0.216*	0.147*	0.022	-0.100*	-0.258*	-0.182*	0.128*
IRL	0.115*	0.174*	0.232*	0.126*	0.011	-0.077*	-0.239*	-0.170*	0.122*
ER	-0.110*	-0.252*	-0.124*	-0.117*	-0.039	0.107*	0.260*	0.182*	-0.051
GDPG	-0.115*	-0.233*	-0.167*	-0.111*	-0.029	0.099*	0.270*	0.189*	-0.076*
FDI	0.082*	0.092*	0.224*	0.103*	-0.023	-0.054	-0.163*	-0.112*	0.160*
	SV	SLACK	LEV	GI	IRL	ER	GDPG	FDI	
SV	1								
SLACK	-0.032	1							
LEV	-0.038	-0.107*	1						
GI	-0.194*	0.065*	0.013	1					
IRL	-0.169*	0.057	-0.024	0.673*	1				
ER	0.205*	-0.052	-0.047	-0.788*	-0.533*	1			
GDPG	0.198*	-0.052	-0.013	-0.764*	-0.807*	0.874*	1		
FDI	-0.106*	0.039	-0.029	0.637*	0.747*	-0.257*	-0.486*	1	

Note: ROA=Return on assets, TQ=Tobin's Q, MB=Managerial Efficiency, MBPF=Managerial Efficiency Permanency, ERQ=Earnings quality, CGI=Corporate governance index, Fage=Firm Age, Fsize=Firm size, SG=Sale growth, SV=Sale volatility, Slack=Financial slack, Lev=Leverage, GI=Governance index, IR=Interest rate, ER=Exchange rate, GDPG=Gross domestic product growth, FDI=Foreign direct investment to GDP *** $P < 0.01$, ** $P < 0.05$, * $P < 0.1$

quality (ERQ). The coefficient of correlation between managerial efficiency and managerial efficiency permanency (MBPF) is found as positive ($r=0.450$), and between managerial efficiency and earning quality (ERQ) has also been found as positive ($r=0.062$). The correlation coefficient between managerial efficiency and corporate governance index is found as -0.024 , which indicates a negative relationship between managerial efficiency and corporate governance.

Moreover, all variables of the study are also showing a relationship with firm-specific (firm age, firm size, sale growth, sale volatility, financial slack, leverage), country-level governance index (GI), and macroeconomic control variables (Interest rate, exchange rate, GDP growth, FDI). According to Hair et al. (2010), multicollinearity issues may arise when there is a strong correlation, or greater than 0.90, between explanatory variables. There is no serious issue with multi-

co-linearity because there is a weak connection between all the explanatory and control variables.

4.2.4 Correlation Analysis in Context of Combined Country

Table-4.8 is indicating the results of the correlation analysis, in the context of the pooling of the companies from all three countries taken in the study.

TABLE 4.8: Correlation Analysis in Context of Combined Countries

	ROA	LTQ	MB	MBPF	ERQ	CGI	FAGE	FSIZE	SG
ROA	1								
LTQ	0.2448	1							
MB	0.1244	0.0385	1						
MBPF	0.0633	0.0486	0.5164	1					
ERQ	0.0053	-0.0648	0.0356	0.0255	1				
CGI	0.0504	0.0562	0.0082	0.0173	0.0077	1			
FAGE	0.0222	0.0415	0.0081	-0.0098	0.0429	0.0738	1		
FSIZE	0.0465	-0.2089	0.0381	0.0208	0.1159	0.127	0.1903	1	
SG	0.0688	-0.0115	0.0873	0.0318	0.0578	-0.0376	0.0594	0.1786	1
LSV	0.1382	-0.0897	0.0265	0.0148	0.0108	0.0776	0.0336	0.7199	0.0146
SLACK	0.0964	0.0735	0.0744	0.0675	-0.0408	-0.0181	-0.021	0.0999	0.0043
LEV	-0.2481	-0.1648	-0.036	-0.0107	0.0584	0.0257	-0.0789	0.1428	0.0399
GI	0.0364	0.1218	0.0017	0.0198	-0.0026	0.0311	0.0513	0.0726	-0.0019
IRL	-0.0387	-0.1245	0.0626	-0.0224	-0.0151	-0.0317	-0.219	-0.3153	-0.0035
ER	-0.1537	-0.1275	-0.0697	-0.0219	0.031	0.0283	0.0415	-0.2481	-0.08
GDPG	0.1479	0.1652	-0.0063	0.0011	-0.0654	-0.0011	-0.0055	0.2097	-0.067
FDI	0.035	0.0342	0.0414	0.0204	0.0708	-0.0139	0.2316	0.4148	0.2349
	LSV	SLACK	LEV	GI	IRL	ER	GDPG	FDI	
LSV	1								
SLACK	0.1156	1							
LEV	-0.0249	-0.0931	1						
GI	0.0112	0.0085	-0.0695	1					
IRL	-0.1674	-0.0217	0.0571	-0.264	1				
ER	-0.28	-0.0718	-0.0405	0.2577	0.1045	1			
GDPG	0.2745	0.0839	-0.0795	-0.0287	-0.575	-0.5733	1		
FDI	0.1318	0.0072	0.1247	0.0264	-0.2625	-0.5476	0.2497	1	

Note: ROA=Return on assets, TQ=Tobin's Q, MB=Managerial Efficiency, MBPF=Managerial Efficiency Permanency, ERQ=Earnings quality, CGI=Corporate governance index, Fage=Firm Age, Fsize=Firm size, SG=Sale growth, SV=Sale volatility, Slack=Financial slack, Lev=Leverage, GI=Governance index, IR=Interest rate, ER=Exchange rate, GDPG=Gross domestic product growth, FDI=Foreign direct investment to GDP ***P < 0.01, **P < 0.05, *P < 0.1

The results are showing that return on assets has a positive and weak relationship with all variables except leverage, interest rate, and exchange rate. Tobin's Q(TQ) is showing positive and weak relationships with Managerial Efficiency, managerial efficiency permanency, corporate governance index, firm age, financial

slack, governance index, GDP growth, and FDI, but a negative relationship with other variables. Moreover, all explanatory variables and control variables have a weak correlation with each other. Therefore, by following Hair et al. (2010) Hair et al. (2010), no serious issue of multi-co-linearity is observed in the context of pooling the companies from Pakistan, India, and Bangladesh.

4.3 Results of Panel Unit Root Test

In the following Table 4.9, the results of the unit root test are mentioned with the P-value of the Levin-Lin-Chu unit root test. The H_0 is the panel containing the unit root and the alternative hypothesis is H_1 : Panel is stationary.

TABLE 4.9: Results of Panel Unit Root test

S.No.	Variables	P-value of Levin Lin-Chu unit root test	Status
1	ROA	0.0000	Stationary at a level I(0.000)
2	TQ	0.0000	Stationary at a level I(0.000)
3	MB	0.0000	Stationary at a level I(0.000)
4	MBPF	0.0000	Stationary at a level I(0.000)
5	ERQ	0.0000	Stationary at a level I(0.000)
6	CGI	0.0000	Stationary at a level I(0.000)
7	FAGE	0.0000	Stationary at a level I(0.000)
8	Fsize	0.0000	Stationary at a level I(0.000)
9	SG	0.0000	Stationary at a level I(0.000)
10	SV	0.0000	Stationary at a level I(0.000)
11	SLACK	0.0000	Stationary at a level I(0.000)
12	LEV	0.0000	Stationary at a level I(0.000)
13	GI	0.0000	Stationary at a level I(0.000)
14	IR	0.0000	Stationary at a level I(0.000)
15	ER	0.0000	Stationary at a level I(0.000)
16	GDPG	0.0000	Stationary at a level I(0.000)
17	FDI	0.0000	Stationary at a level I(0.000)

Note: ROA=Return on assets, TQ=Tobin's Q, MB=Managerial Efficiency, MBPF=Managerial Efficiency Permanency, ERQ=earning quality, CGI=Corporate governance index, Fage=Firm Age, Fsize=Firm size, SG=Sale growth, SV=Sale volatility, Slack=Financial slack, Lev=Leverage, GI=Governance index, IR=Interest rate, ER=Exchange rate, GDPG=Gross domestic product growth, FDI=Foreign direct investment to GDP

The results are indicating that the Levin Lin-Chu test has P-values less than 0.05 in the case of all the variables. This significance are showing that all alternative

hypothesis is accepted. Therefore, all the variables are stationary at level I(0.000). So, these can be used for regression analysis.

4.4 Test for Endogeneity

The following Table No. 4.10 is showing the results for endogeneity in the context of all three countries and the pooling of these three countries.

TABLE 4.10: Test for Endogeneity

Dependent Variable	Pakistan	India	Bangladesh	Combined Countries
Co-efficient and Significance of Residual (ResiEndo) when Added as Regressor				
ROA	0.0367***	-0.1024***	0.1054***	0.0297***
	-0.0006	0	0	0
TQ	1.1375***	-0.4316**	0.4696***	0.1649**
	0	-0.0405	-0.0034	-0.0268

Note: ROA=Return on Assets, TQ=Tobin's Q *** $P_j0.01$, ** $P_j0.05$, * $P_j0.1$ Parenthesis= (P-value, significance)

By following [Wintoki et al. \(2012\)](#); [Ullah et al. \(2018\)](#) the Durbin-Wu-Test has been applied which is mostly used to confirm the presence of the endogeneity of the explanatory variables in the model. In first step, an independent variable i.e., managerial efficiency as a dependent variable and has been regressed on all other independent variables and control variables. This process has been applied in the context of all countries taken as individually and collectively and residual terms have been obtained. In next step, these residual terms (ResiEndo) have been taken as part of general equations as independent variable along with all other independent variable and control variable in the context of all countries taken as individually and collectively. The co-efficients of residual terms found significant at 1% level of significance, this significant test statistic indicates the endogeneous variable is present, which means the explanatory variable is linked with the residual and issue of endogeneity existed ([Ullah et al., 2018](#)).

The results are showing that in the case of all three countries and pooling of these countries the term residual (ResiEndo) is regressed on dependent variables (ROA and TQ) and indicating that the coefficient is significant in all cases is significant with a p-value less than 0.05. Therefore, the results confirm the presence of an

endogeneity issue in all models and the case of all countries. Thus, the generalized method of moments (GMM) is suggested to apply to the test of hypotheses.

4.5 Role of Corporate Governance as a Moderator in a Relationship of managerial efficiency with Firm Performance

The corporate governance index's potential moderating influence on the relationship between managerial conduct and firm performance has been investigated using the GMM system. Return on assets (ROA) and Tobin's Q (TQ) are two market- and book-based proxies respectively, that have been used to gauge the firm's performance. The findings are shown in Tables 4.11 and 4.12, which reflect the empirical state of corporate governance's moderating function in the link between management conduct and company performance as assessed by return on assets (ROA) and Tobin's Q, respectively. In both models (Model-I with dependent variable ROA and Model-II with dependent variable Tobin's Q), the J-statistic is insignificant, which indicates that instrumental overidentifying restrictions are valid (Asimakopoulos, Asimakopoulos and Fernandes, 2019). Moreover, autocorrelation in 2nd order has been tested and the results are showing, in all cases the issue of autocorrelation is resolved at AR (2) with a p-value greater than 0.05.

4.5.1 Moderating Role of Corporate Governance in a relationship of managerial efficiency with Firm Performance (ROA)

Table 4.11 illustrates how corporate governance, in the context of three rising economies (Pakistan, India, and Bangladesh), moderates the link between management conduct and company performance as measured by return on assets.

The results regarding the impact of managerial efficiency on performance measured by return on assets are reported in Table-4.11 in the context of Pakistan,

TABLE 4.11: Moderating Role of Corporate Governance in a relationship of managerial efficiency with Firm Performance (ROA)

Variables	Pakistan	India	Bangladesh	Combine
ROA (-1)	-0.1926*** (0.0000)	-0.2010*** (0.0000)	0.2336*** (0.0000)	0.4747*** (0.0000)
MB	0.0174*** (0.0000)	0.0169*** (0.0000)	0.0599*** (0.0000)	0.0269*** (0.0282)
CGI	0.0032*** (0.0000)	0.0050*** (0.0000)	0.0315*** (0.0000)	0.0022*** (0.006)
MB*CGI	0.0138** (0.012)	0.0085** (0.012)	0.0058*** (0.0000)	0.0062** (0.001)
Fsize	-0.0115*** (0.0000)	-0.0179*** (0.0000)	-0.0061*** (0.0034)	-0.0221*** (0.005)
Fage	0.0073*** (0.0000)	-0.0362*** (0.001)	0.0804*** (0.0000)	0.0020*** (0.299)
SG	0.0189*** (0.0000)	0.0074*** (0.0000)	0.0144*** (0.0000)	0.0135*** (0.0000)
SV	0.0066*** (0.0000)	0.0007 (0.542)	-0.0255*** (0.0000)	0.0029*** (0.0000)
Slack	-0.0003*** (0.371)	0.0004*** (0.375)	-0.0266*** (0.0000)	0.0197*** (0.0000)
Lev	-0.0531*** (0.0000)	-0.1363*** (0.0000)	-0.0835*** (0.001)	-0.0337*** (0.0000)
GI	0.0025*** (0.0000)	0.0040*** (0.0000)	-0.0001 (0.904)	0.003 (0.264)
IR	0.0005 (0.261)	0.0036*** (0.0000)	0.0052 (0.261)	0.001 (0.124)
ER	-0.0003*** (0.0000)	-0.0001 (0.577)	-0.0030*** (0.0000)	-0.0001** (0.024)
GDPG	0.0021*** (0.0000)	0.0020*** (0.0000)	0.0146*** (0.0000)	0.0031*** (0.0000)
FDI	0.0010** (0.0180)	0.005** (0.0180)	0.0082 (0.2090)	0.0022* (0.0870)
Constant	0.1515*** (0.0000)	0.4790*** (0.0000)	0.3720*** (0.0000)	0.0062 (0.604)
AR (1)	-2.7738** (0.0055)	-2.8387*** (0.0045)	-2.1575** (0.031)	-3.9246*** (0.0001)
AR (2)	-0.6552 (0.5123)	-0.6173 (0.537)	-0.583 (0.5596)	0.9524 (0.3409)
No. of Instruments	207	185	94	260
Hansen J-Stat P-Value	177.236 (0.7541)	166.842 (0.5325)	75.669 (0.5537)	264.334 (0.1772)

Note: ROA=Return on assets, MB=Managerial Efficiency, MB*CGI=Interaction term, CGI=Corporate governance index, Fage=Firm Age, Fsize=Firm size, SG=Sale growth, SV=Sale volatility, Slack=Financial slack, Lev=Leverage, GI=Governance index, IR=Interest rate, ER=Exchange rate, GDPG=Gross domestic product growth, FDI=Foreign direct investment to GDP. *** $P < 0.01$, ** $P < 0.05$, * $P < 0.1$ Parenthesis= (P-value, significance)

India, Bangladesh, and the pooling of companies from these countries. The coefficients of managerial efficiency in the context of Pakistan are positive and significant ($\beta=0.0174$, $P=0.0000$), in the context of India are positive and significant ($\beta=0.0169$, $P=0.0000$), in the case of Bangladesh ($\beta=0.0599$, $P=0.0000$) and respect of pooling of companies form combined countries the coefficient of managerial efficiency is also positive and significant ($\beta=0.0269$, $P=0.0282$). Therefore, the results are showing that in all cases hypothesis H1: managerial efficiency has a positive impact on firm performance is accepted.

The results are following the theory and past literature. According to past studies, the positive influence of managerial efficiency in terms of abilities and utilization of skills on firm performance is reported ([Andreou et al., 2016](#)). According to [Bertrand and Schoar \(2003\)](#), specific management philosophies impact operational and financial choices, which further enhances business performance. This claim was supported by [Jensen and Zajac \(2004\)](#), who noted that managers' expertise influences strategy creation and improves business performance. The resource-based theory discusses that managers are the main factors [Holcomb et al. \(2009\)](#) that contribute to competitive advantage by using the company's resources effectively ([García-Meca and García-Sánchez, 2018](#)).

The results regarding the moderating role of corporate governance in the relationship between managerial efficiency and firm performance measured by return on assets are also reported in table-4.11. The coefficient of the interaction term (MB*CGI) in the context of Pakistan is positive and significant at a 5% level of significance ($\beta=0.0138$, $P=0.0120$), in respect of India the co-efficient is positive and significant at a 5% level of significance ($\beta=0.0085$, $P=0.0120$), in case of Bangladesh the co-efficient of the interaction term is also positive and significant at 1% level of significance ($\beta=0.0058$ $P=0.0000$) and in context of pooling of all companies from all selected countries, the coefficient of the interaction term is also positive and significant at 1% level of significance ($\beta=0.0062$ $P=0.0010$). The results are showing that in the context of all countries either taken individually or collective, on one side the coefficients of managerial efficiency (MB) are positive and significant and on the other hand the interaction terms (MB*CGI) are also positive and significant, therefore, corporate governance index (CGI) is improving

the relationship between managerial efficiency and firm performance measured by return on assets.

Therefore, hypothesis **H2**: Corporate Governance improves the relationship between managerial efficiency and firm performance measured by return on assets is accepted. The results of the study are in alignment with the theory and past studies. On one side corporate governance monitors the managers to do in the best interest of the shareholders and on the other hand it affects positively the firm performance. Corporate governance affects the firm performance and does two things: on the one hand, it enhances business performance [Iqbal et al. \(2019\)](#); [Abdallah and Ismail \(2017\)](#) and on the other, it lessens the agency conflict that exists between managers and shareholders. Therefore, the link between management conduct and business performance may be impacted by the most acceptable corporate governance procedures, and the study results are aligned with this argument. According to agency theory, the board oversees, supervises, and controls managers' duties to reduce agency conflicts while defending the interests of shareholders (Fama and Jensen, 1983). As a result, the board's responsibility extends beyond just endorsing managerial decisions [Kim et al. \(2009\)](#) it may also assist in coordinating such decisions with the interests of shareholders to reduce agency problems (Garcia-Sanchez, 2020).

4.5.2 Moderating Role of Corporate Governance in a relationship of managerial efficiency with firm performance (TQ)

Table No.4.12 demonstrates the moderating role of corporate governance in a relationship between managerial efficiency and firm performance measured by Tobin's Q (TQ). The results have been obtained by applying the system GMM in the scenario of three lower-income emerging economies (Pakistan, India, and Bangladesh). The results of the J-statistic are insignificant in all cases, which validates the overidentifying restrictions. Moreover, in all cases the results are showing that in 2nd order, the issue of autocorrelation is addressed as the autoregressive term AR (2) is insignificant at 5% level of significance in all cases.

TABLE 4.12: Moderating Role of Corporate Governance in a Relationship of managerial efficiency with Firm Performance (TQ)

Variables	Pakistan	India	Bangladesh	Combine
TQ(-1)	0.6478*** (0.000)	0.4303*** (0.000)	0.1724*** (0.000)	0.8429*** (0.000)
MB	-0.0541*** (0.01)	-0.1192*** (0.000)	0.9853*** (0.000)	0.2250*** (0.000)
CGI	0.0216*** (0.035)	0.0131*** (0.000)	0.1334*** (0.000)	0.0223*** (0.000)
MB*CGI	0.2267** (0.000)	0.1503** (0.028)	0.2175*** (0.000)	0.3095*** (0.000)
Fsize	-0.3362*** (0.000)	-0.3943*** (0.000)	0.4175*** (0.0034)	-0.0613*** (0.000)
Fage	0.5692*** (0.000)	-0.6941*** (0.000)	-1.8093*** (0.000)	0.0674*** (0.000)
SG	-0.1572*** (0.000)	-0.2364*** (0.000)	-0.1404*** (0.000)	0.0217*** (0.000)
SV	0.2290*** (0.000)	0.2912 (0.542)	-0.3226*** (0.000)	-0.0003 (0.851)
Slack	-0.0410*** (0.001)	-0.0112*** (0.375)	-1.0080*** (0.000)	-0.1240*** (0.000)
Lev	0.2324 (0.185)	-1.2398*** (0.000)	0.3230* (0.097)	-0.7442*** (0.000)
GI	0.0993*** (0.000)	0.1569*** (0.000)	-0.0043 (0.476)	0.0339*** (0.000)
IR	0.0156 (0.653)	0.0702*** (0.000)	-0.0890*** (0.000)	-0.0154*** (0.000)
ER	-0.0080*** (0.002)	-0.0082 (0.577)	-0.0072*** (0.000)	-0.0023*** (0.000)
GDPG	0.0561*** (0.000)	0.1025*** (0.000)	-0.1645*** (0.000)	0.0514*** (0.000)
FDI	0.0307 (0.3781)	0.1013** (0.0180)	0.3482*** (0.0000)	0.0312*** (0.0000)
Constant	2.7645*** (0.000)	8.4273*** (0.000)	12.5860*** (0.000)	2.0430*** (0.000)
AR (1)	-5.2237*** (0.000)	-4.5328*** (0.000)	-5.0918*** (0.000)	-12.0520*** (0.000)
AR (2)	-1.6842 (0.0922)	-0.6173 (0.082)	1.316 (0.1882)	-1.7899 (0.0735)
No. of Instruments	168	213	124	460
Hansen J-Stat P-Value	162.211 (0.2706)	191.578 (0.5956)	90.119 (0.8935)	484.112 (0.78)

Note: TQ=Tobins'Q, MB=Managerial Efficiency, MB*CGI=Interaction term, CGI=Corporate governance index, Fage=Firm Age, Fsize=Firm size, SG=Sale growth, SV=Sale volatility, Slack=Financial slack, Lev=Leverage, GI=Governance index, IR=Interest rate, ER=Exchange rate, GDPG=Gross domestic product growth, FDI=Foreign direct investment to GDP. ***P < 0.01, ** P < 0.05, *P < 0.1 Parenthesis= (P-value, significance)

The results are further indicating that the coefficient of managerial efficiency in the case of Bangladesh is positive and significant ($\beta=0.9853$, $P=0.0120$) and in the context of pooling of companies from Pakistan, India, and Bangladesh, the co-efficient of managerial efficiency is positive and significant at 1% level of significance ($\beta=0.2250$, $P=0.0000$), which indicates that the hypothesis **H1**: managerial efficiency has a positive impact on firm performance is accepted in respect of Bangladesh and pooling of companies from all three countries. The results have consistency with the resource-based view theory that elaborates that managers are the main contributor to a firm performance by utilizing the firm's resources effectively and efficiently (García-Meca and García-Sánchez, 2018). According to past studies, the positive influence of managerial efficiency in terms of abilities and utilization of skills on firm performance is reported (Andreou et al., 2016). According to Bertrand and Schoar (2003), specific management philosophies impact operational and financial choices, further enhancing business performance.

The results are further disclosed in the context of Bangladesh and the pooling of all companies from the selected countries are showing that the coefficients of interaction terms (MB*CGI) are positive and significant ($\beta=0.2175$, $P=0.0000$ in the context of Bangladesh; $\beta=0.1674$, $P=0.0000$ in case of pooling of all companies from Pakistan, India, and Bangladesh). These outcomes are evident that the co-efficient of managerial efficiency and interaction terms are positive and significant, which indicates that hypothesis H2: Corporate Governance improves the relationship between managerial efficiency and firm performance measured by Tobin's Q is accepted in respect of Bangladesh and pooling of all companies from selected countries. The agency theory supports the hypothesis, that corporate governance is a mechanism that improves the relationship between managerial efficiency and firm performance by ensuring that the managers are doing their best in the interest of the shareholders, which reduces the agency issue (Fama and Jensen, 1983). As a result, the board's responsibility extends beyond just endorsing managerial decisions Kim et al. (2009) it may also assist in coordinating such decisions with the interests of shareholders to reduce agency problems (García-Sánchez, 2020). Moreover, in the context of Pakistan, the analysis outcome further disclosed that the co-efficient of managerial efficiency is negative and significant ($\beta= -0.0541$,

$P=0.0000$) at a 1% level of significance, which means managerial efficiency has a negative influence on a firm performance measured by market-based proxy, i.e., Tobin's Q (TQ). Furthermore, in the case of India, the results are demonstrated that the system GMM has been applied and that managerial efficiency negatively influences Tobin's Q at the 1% level of significance ($\beta = -0.1192$, $P=0.0000$). Therefore, the H1: managerial efficiency positively influences firm performance is partially accepted as in both cases the coefficient is negative but significant. However, Tobin's Q is a market-based measure of firm performance, and besides Managerial Efficiency, many other factors influence the market-based measurement of firm performance. Those factors may be at the industrial level, country level, or macroeconomic variables due to which the significance of the management efforts is compromised.

Another reason for the negative influence of managerial efficiency on Tobin's Q is due to the personal interest of the managers as they work for their interest and the firm performance is compromised, so now the role of effective corporate governance has become essential to weak this negative relationship between managerial efficiency and firm performance (Tobin's Q). To some extent, decision-making reflects the quirks of the decision-makers, and complex judgments are often reliant on cognitive (Gan, 2019) and behavioral factors (Hambrick and Mason, 1984). According to the Echelons idea, managers have unique traits and cognitive styles that are not interchangeable, which causes them to make unique judgments, especially in complicated situations (Bamber et al., 2010). According to this theory, managers' traits affect corporate choices and company performance by perceiving business problems from their point of view (Hambrick, 2007). Therefore, managerial efficiency may affect the firm performance positively or negatively. In emerging economies, there is a positive association between firm performance and managers' skills (Mertzanis and Said, 2019).

However, dispersion in this relationship has been reported due to variations in economic development, technology, income, and education (Inam Bhutta et al., 2021). According to the Echelons theory, managers have unique traits and cognitive styles that are not interchangeable, which causes them to make unique judgments, especially in complicated situations (Bamber et al., 2010). According

to this hypothesis, managers' traits affect corporate choices and company performance by perceiving business problems from their point of view (Hambrick, 2007). Therefore, the hypothesis in the context of Pakistan and India is following the Echelons theory that the managers' unique traits and behavior aspects affect the firm performance differently. Moreover, the agency theory also argued that managers are opportunistic and give importance to their interests which is why in long run the firm performance may reduce. Moreover, Tobin's Q is used as a proxy of long-run firm performance. Therefore, the negative effect of managerial efficiency is consistent with the theory.

Moreover, the coefficient of the interaction terms (MB*CGI) is positive and significant in the context of both Pakistan ($\beta=0.2267$, $P=0.0000$) and India ($\beta=0.1503$, $P=0.0280$). On one side in respect of both countries, managerial efficiency has a negative impact on firm performance measured by Tobin's Q and on the other side, the interaction terms have a positive impact on Tobin's Q, which indicates that corporate governance weak the negative relationship between the managerial efficiency and firm performance and reduce the agency issue. Wu (2021), in his study corporate governance, took as an independent variable and country-level governance as a moderator and he discussed if firm-level governance has a negative impact on firm performance, the role of country-level governance is increased as the co-efficient of the interaction term is positive and significant and it reduces this negative impact. Similarly, in this study, managerial efficiency as an independent variable has a negative impact on firm performance, and now the role of corporate governance is increased and it improves the relationship between managerial efficiency and firm performance in the context of Pakistan and India.

In the case of both countries, corporate governance weakens the relationship between managerial efficiency and firm performance measured by Tobin's Q. One side is that managerial efficiency influences firm performance (TQ) negatively, as depicted by H1. Because managers work for their interests and compromise the firm's performance; as a result, this is another factor contributing to the negative influence of managerial efficiency on Tobin's Q. Therefore, effective corporate governance must mitigate this negative relationship between managerial efficiency and firm performance (as measured by Tobin's Q).

According to [Jensen and Meckling \(1976\)](#), managers have opportunistic behavior, which causes the misalignment between the interest of shareholders and managers, and ultimately affects the firm performance negatively. Now, the role of the board of directors gets more importance to align the interests of the both parties [Ullah et al. \(2018\)](#), therefore, board of directors play in important role to improve the relationship between managerial efficiency and firm performance.

Here, corporate governance weakens this relationship between managerial efficiency and firm performance, due to which agency issue is minimized. The results are inconsistent with the agency theory that the board performs an influential role in minimizing the agency issue ([Fama and Jensen, 1983](#)).

In a nutshell, based on the results of testing the hypothesis, it is concluded that in the context of all three lower-income emerging economies, the hypothesis H1: managerial efficiency has a positive influence on firm performance (Tobin's Q) is partially accepted in case of Pakistan and India and is accepted in case of Bangladesh and pooling of companies from all selected countries. In addition, H2: Corporate Governance strengthens the relationship between managerial efficiency and firm performance and is accepted in all cases.

4.6 Impact of managerial efficiency Permanency on Firm Performance

In this section, the results of the testing of the hypothesis obtained by applying system GMM to check the statistical status of hypothesis H3: Impact of the managerial efficiency permanency on firm performance is significantly different from the impact of temporary Managerial Efficiency. The results are presented in Table-4.13 and Table-4.14 with dependent variable return on assets (ROA) and Tobin's Q (TQ) respectively. Moreover, in both tables, the results in the context of Pakistan, India, Bangladesh, and the pooling of countries have been presented.

4.6.1 Impact of managerial efficiency Permanency With Firm Performance (ROA)

Table No.4.13 is demonstrating the results regarding the impact of managerial efficiency permanency on firm performance measured by return on assets. In each case, two autoregressive terms [AR (1) and AR (2)] have been included to address the autocorrelation problem. To confirm the validity of the instrumental overidentifying constraints, the results of the Hansen J-statistic have also been obtained. The results are indicating that in all cases except Bangladesh, the issue of autocorrelation is resolved at AR (2), however, in the case of Bangladesh the issue of autocorrelation is resolved at AR (1) with a p-value greater than 0.05. In the context of Pakistan, India, Bangladesh, and combined countries, the results of the Hansen J-Statistic are showing an insignificant value with a p-value greater than 0.05, which confirms the validity of instrumental overidentifying restrictions.

The results in the context of Pakistan are demonstrating that the co-efficient of managerial efficiency permanency (MBPF), which is a slope dummy measured by the product of the managerial efficiency and dummy of managerial efficiency permanency, is positive and significant at a 1% level of significance (0.0398, P=0.0060), indicating that the impact of managerial efficiency permanency on return on assets is significantly greater than the impact of temporary Managerial Efficiency. Similarly, the co-efficient of managerial efficiency permanency (MBPF) is also positive and significant at a level of 1% in the context of India (0.0037, P=0.0010), Bangladesh (0.0615, P=0.0000) and in respect of combined countries (0.0227, P=0.0000). Therefore, based on the statistical results, hypothesis H3: managerial efficiency permanency affects significantly different than the temporary managerial efficiency on firm performance is accepted in the context of the separate country and combined countries results. Moreover, the results are further showing that the results have also been controlled by using the firm-specific and country-specific variables.

The resource-based perspective theory, which describes the significance of managers [Holcomb et al. \(2009\)](#), indicates that a firm's ability to gain a competitive advantage depends significantly on its managers' capacity to do so ([García-Meca](#)

TABLE 4.13: Impact of managerial efficiency Permanency on Firm Performance (ROA)

Variables	Pakistan	India	Bangladesh	Combine Countries
ROA (-1)	0.8403*** (0.000)	0.0598*** (0.000)	-0.016 (0.000)	-0.0655***
MB	0.0314*** (0.006)	0.0397*** (0.000)	0.0608*** (0.000)	0.0100** (0.021)
MBPF	0.0398** (0.02)	0.0037** (0.001)	0.0615*** (0.000)	0.0227*** (0.000)
CGI	0.1160*** (0.000)	0.0058*** (0.000)	0.0239*** (0.000)	0.0040* (0.052)
Fsize	-0.0268*** (0.000)	-0.0122*** (0.000)	-0.0855*** (0.000)	-0.0051* (0.073)
Fage	-0.0162*** (0.000)	0.0729*** (0.000)	-0.025 (0.559)	-0.0109*** (0.000)
SG	-0.0095*** (0.0018)	0.0211*** (0.000)	0.0066*** (0.000)	0.0074*** (0.000)
SV	-0.001 (0.868)	0.0063*** (0.000)	0.0025 (0.477)	0.0025** (0.001)
Slack	-0.001 (0.621)	0.0001*** (0.000)	0.0737*** (0.000)	-0.009 (0.337)
Lev	-0.0001 (0.189)	0.0001*** (0.000)	-0.0648*** (0.000)	-0.0913*** (0.000)
GI	-0.0016** (0.011)	-0.0006** (0.002)	0.0105*** (0.0001)	-0.0002 (0.495)
IR	0.0105*** (0.000)	-0.0244*** (0.000)	-0.0043*** (0.004)	-0.0001 (0.956)
ER	0.0013*** (0.000)	-0.0018*** (0.000)	0.0142*** (0.000)	-0.0001* (0.079)
GDPG	0.0116*** (0.000)	0.0001 (0.307)	-0.0319** (0.018)	0.0001 (0.786)
FDI	0.0551*** (0.000)	0.0171*** (0.000)	0.1331*** (0.000)	0.0034** (0.041)
Constant	0.1770*** (0.002)	0.2532*** (0.000)	0.6117*** (0.006)	0.1830*** (0.000)
AR (1)	-2.1428** (0.0321)	-2.3401** (0.0193)	-1.3638 (0.1726)	-1.7743* (0.076)
AR (2)	-0.3235 (0.7463)	-1.7791 (0.08)	-0.3808 (0.7033)	-0.8299 (0.4066)
No. of Instruments	148	196	85	241
Hansen J-Stat P-Value	139.953 (0.3013)	187.846 (0.329)	68.599 (0.491)	233.82 (0.3293)

Note: ROA=Return on assets, MB=Managerial Efficiency, MBPF=Managerial Efficiency Permanency, CGI=Corporate governance index, Fage=Firm Age, Fsize=Firm size, SG=Sale growth, SV=Sale volatility, Slack=Financial slack, Lev=Leverage, GI=Governance index, IR=Interest rate, ER=Exchange rate, GDPG=Gross domestic product growth, FDI=Foreign direct investment to GDP. *** $P < 0.01$, ** $P < 0.05$, * $P < 0.1$ Parenthesis= (P-value, significance)

and García-Sánchez, 2018). On the other hand, the Echelons theory says that managers have unique traits and are not interchangeable in cognitive styles; therefore, they choose various actions, particularly in complicated circumstances (Bamber et al., 2010). The results are in line with the theoretical literature that the continuity and stability of managerial efficiency in terms of utilization of skills and resources, has more effect on firm performance rather than short-term Managerial Efficiency. The stewardship theory also supports the result that managers are a steward and they committed their work honestly due to their inner feelings and this continuity in the work with keen interest leads to the firm performance.

4.6.2 Impact of managerial efficiency Permanency with firm performance (TQ)

In this section Table-4.13, the results of the difference between the impact of managerial efficiency and its permanency on Tobin's Q have been mentioned. In the context of all three emerging economies individually and combination, AR (1) is significant and AR (2) is insignificant, which indicates that the issue of autocorrelation is addressed in AR (2). The J-statistic with a p-value greater than 0.05 and demonstrated that the instrumental overidentifying restrictions are valid.

The results, in the case of pooling of companies from Pakistan, India, and Bangladesh, are showing that managerial efficiency permanency has its co-efficient as positive and significant (0.9311, P=0.0000), which is evidence of the significant greater impact of managerial efficiency permanency on Tobin's Q than the influence of managerial efficiency on firm performance. The results in the case of individual countries are also indicating that the co-efficient of managerial efficiency permanency (MBPF) is positive and significant [Pakistan (1.2145, P=0.0000), India (0.5550, P=0.0000), Bangladesh (0.2447, P=0.0000)]. The above-presented results are showing that in the case of companies from selected countries individually and pooling of companies from all countries, hypothesis H3: managerial efficiency permanency affects significantly different than the temporary managerial efficiency on firm performance is accepted.

TABLE 4.14: Impact of managerial efficiency Permanency on Firm Performance (TQ)

Variables	Pakistan	India	Bangladesh	Combine Countries
TQ (-1)	0.8041*** (0.000)	0.5530*** (0.000)	0.0001*** (0.000)	-0.8385*** (0.000)
MB	-0.5912*** (0.000)	-0.4020*** (0.000)	1.0090*** (0.000)	0.9311*** (0.000)
MBPF	1.2145*** (0.000)	0.5550*** (0.000)	0.2447*** (0.000)	0.2460*** (0.005)
CGI	0.0674*** (0.000)	0.0197*** (0.000)	0.2623*** (0.000)	0.0530*** (0.000)
Fsize	-0.0360*** (0.000)	-0.6244*** (0.000)	-0.3428*** (0.000)	-0.0568*** (0.000)
Fage	0.0260*** (0.000)	0.2888* (0.091)	0.0008 (0.99)	0.0247*** (0.000)
SG	-0.0202 (0.109)	-0.2337*** (0.000)	0.0652*** (0.000)	-0.0657*** (0.000)
SV	-0.0203*** (0.000)	0.1926*** (0.000)	-0.0262 (0.155)	0.0201*** (0.000)
Slack	0.0156** (0.002)	0.0033** (0.004)	-0.5365*** (0.000)	-0.0855 (0.199)
Lev	0.0138*** (0.000)	-0.0026*** (0.000)	-0.5088*** (0.000)	-0.4573*** (0.000)
GI	0.0650*** (0.000)	0.1490*** (0.000)	0.4086*** (0.000)	0.0057** (0.0130)
IR	0.0765*** (0.000)	0.4659*** (0.000)	-0.0865*** (0.000)	0.0426*** (0.000)
ER	-0.0033*** (0.000)	0.0353*** (0.000)	0.4094*** (0.000)	-0.0001 (0.915)
GDPG	0.0549*** (0.000)	0.1360*** (0.000)	-1.4203*** (0.000)	0.0435*** (0.000)
FDI	0.4106*** (0.000)	0.4281*** (0.000)	4.5090*** (0.000)	0.1731*** (0.000)
Constant	1.0723*** (0.000)	3.0589** (0.037)	-8.6280*** (0.000)	0.8768*** (0.000)
AR (1)	-7.2114*** (0.000)	-4.3525*** (0.000)	-4.0283*** (0.0001)	-8.6423*** (0.000)
AR (2)	0.2894 (0.7723)	-1.7037 (0.09)	1.0931 (0.2744)	-1.3369 (1.1813)
No. of Instruments	168	135	122	350
Hansen J-Stat	157.381	125.43	86.142	375.697
P-Value	(0.3657)	(0.3255)	(0.9212)	(0.06)

Note: ROA=Return on assets, MB=Managerial Efficiency, MBPF=Managerial Efficiency Permanency, , CGI=Corporate governance index, Fage=Firm Age, Fsize=Firm size, SG=Sale growth, SV=Sale volatility, Slack=Financial slack, Lev=Leverage, GI=Governance index, IR=Interest rate, ER=Exchange rate, GDPG=Gross domestic product growth, FDI=Foreign direct investment to GDP. *** $P < 0.01$, ** $P < 0.05$, * $P < 0.1$ Parenthesis= (P-value, significance)

The resourced-based theory and literature support the results that continuity in efforts of managers in terms of the utilizing of skills and resources in a better way has a more positive influence on performance rather than the effect of temporary Managerial Efficiency. The resource-based perspective theory, which describes the significance of managers indicates that the firm's ability to gain a competitive advantage depends greatly on managers' capacity to use resources efficiently (García-Meca and García-Sánchez, 2018). A corporation must take chances to survive, and effective managers are more likely to do so than inexperienced managers (Yung and Chen, 2018). The motivation for using the resources and investment opportunities available to increase corporate success lies with managers. Managers with exceptional ability take chances, whereas managers with less exceptional ability do not (Yung and Chen, 2018). If the managers work efficiently permanently, the company will get benefit in long run, which is helpful to achieving the objective to maximize the wealth of shareholders. Another aspect of corporate success is enhancing managerial conduct regarding skill usage and continuity. Stewardship theory, which Donaldson and Davis (1989) presented, is an alternative to agency theory. In this idea, a manager is a steward who wants to do his absolute best to uphold the interests of the shareholders. As a result, managers strive to maximize shareholder wealth while feeling responsible for their actions. Therefore, regarding resource usage, permanent management in terms of skills and resources for better conduct promotes company performance more than transient Managerial Efficiency.

4.7 Mediating Role of Earnings Quality in a Relationship of managerial efficiency with Firm Performance

Observing how earning quality (ERQ) mediates the link between managerial efficiency (MB) and business performance as assessed by return on assets (ROA) and Tobin's Q is another goal of the study (TQ). The findings below are displayed in the context of all South Asian emerging economies with lower incomes individually

and pooling of companies from all these economies. The results show the effect of an independent variable on the mediator (Path-a), the effect of the mediator on a dependent variable (Path-b), and the influence of the independent variable on a dependent variable (Path-c) to check the conditions of mediation. Finally, in the 4th Step, the results have been obtained by including both independent and mediators simultaneously to test the full or partial mediation of earning quality in a relationship between managerial efficiency (MB) and firm performance measured by return on assets (ROA) and Tobin's Q (TQ).

4.7.1 Mediating Role of Earnings Quality Between managerial efficiency and Firm Performance in the Context of Pakistan

The results demonstrate the mediating influence of earning quality (ERQ) in the relationship between managerial efficiency (MB) and firm performance measured by return on assets (ROA, in Table-4.15) and Tobin's Q (Table-4.16) in the Pakistani context. The results demonstrated that in all paths (a, b and c) by applying system GMM, the autoregressive terms AR (1) and AR (2) have been added to address the issue of autocorrelation and show that at AR (2), the issue of the autocorrelation is resolved. Moreover, the results of the Hansen J-statistic are showing the validation of instrumental overidentifying restrictions. Moreover, both firm and country-specific control variables have also been included. Firm-level control variables are firm age, firm size, sale growth, sale volatility (SV), leverage (Lev), financial slack, and macro-economic control variables are GDP growth (GDPG), Foreign direct investment (FDI), interest rate (IR) and exchange rate (ER).

In Path-a results are depicted that the managerial efficiency (MB) positively and significantly influences earning quality ($\beta=0.0405$, $P=0.000$) at a significant level of 1%. Therefore, the results are showing that managerial efficiency has significantly and positively associated with earning quality based on the statistical results. The results regarding Path-b depict that the dependent variable is firm performance (ROA), and earning quality (ERQ) affects the return on assets (ROA) positively at a 10% level of significance ($\beta=0.1283$, $P=0.0510$). The results concluded that

TABLE 4.15: Mediating Role of ERQ in Relationship Between MB and ROA in the Context of Pakistan

Variables	Path-a	Path-b	Path-c	4th Step
Dependent Variables	ERQ	ROA	ROA	ROA
DV (-1)	0.6315*** (0.000)	0.2776*** (0.000)	0.5439*** (0.000)	0.4106*** (0.000)
MB	0.0405*** (0.000)		0.0473*** (0.000)	0.0487*** (0.000)
ERQ		0.1283* (0.051)		-0.1606*** (0.000)
Fage		-0.0086 (0.001)	-0.0258*** (0.000)	-0.3054* (0.000)
Fsize		-0.2019*** (0.001)	-0.1397*** (0.000)	-0.1749*** (0.000)
SG		0.0161 (0.019)	-0.0193*** (0.000)	-0.1248 (0.000)
SV		0.0018 (0.762)	0.0315*** (0.000)	0.0974 (0.000)
Slack		0.0087* (0.058)	0.0531*** (0.000)	0.0029 (0.357)
Lev		0.0126 (0.839)	-0.2723*** (0.000)	0.0293 (0.468)
IR		-0.0096** (0.028)	-0.0039** (0.028)	-0.0119 (0.33)
ER		0.0016*** (0.001)	-0.0009*** (0.000)	-0.0018 (0.83)
GDPG		-0.0045 (0.33)	-0.0048** (0.019)	-0.0037 (0.225)
FDI		0.0038 (0.772)	0.0033 (0.65)	0.0044** (0.044)
Constant	-0.2821*** (0.000)	3.3447*** (0.000)	1.9806*** (0.000)	2.5883*** (0.000)
AR (1)	-5.7251 (0.000)	-2.7325*** (0.0063)	-2.3227** (0.0202)	-2.3655** (0.018)
AR (2)	0.9854 (0.3244)	-1.222 (0.2217)	-1.173 (0.2408)	0.7882 (0.4306)
No. of Instruments	99	21	126	150
Hansen J-Stat	115.931	12.156	136.487	154.491
P-Value	(0.0812)	(0.1444)	(0.0656)	(0.1326)

Note: ROA=Return on assets, MB=Managerial Efficiency, MBPF=Managerial Efficiency Permanency, ERQ=Earnings quality, CGI=Corporate governance index, Fage=Firm Age, Fsize=Firm size, SG=Sale growth, SV=Sale volatility, Slack=Financial slack, Lev=Leverage, GI=Governance index, IR=Interest rate, ER=Exchange rate, GDPG=Gross domestic product growth, FDI=Foreign direct investment to GDP. ***P < 0.01, **P < 0.05, *P < 0.1 Parenthesis= (P-value, significance)

earning quality is significantly associated with firm performance (ROA). The results of path-c show that managerial efficiency (MB) improves firm performance (ROA). managerial efficiency positively influences firm performance (ROA) at a 1% level of significance ($\beta=0.0472$, $P=0.0000$). Moreover, all firm-specific controlling variables change the return on assets significantly, and all macroeconomic variables except foreign direct investment (FDI) influence the return on assets. So, the results show that managerial efficiency is significantly associated with firm performance (ROA). Based on statistical results presented in Table-4.15, Path-a, Path-b, and Path-c are showing significant results; therefore, earning quality (ERQ) mediates between managerial efficiency (MB) and financial performance measured by return on assets (Baron and Kenny, 1986).

In the 4th Step, the results intimated that managerial efficiency ($\beta=0.0487$, $P=0.0000$) and earning quality ($\beta= -0.1607$, $P=0.0000$) both have a significant influence on return on assets (ROA) when taken into account simultaneously. Therefore, earning quality partially mediates between managerial efficiency and firm performance (ROA).

Finally, it is concluded that H4: earning quality mediates the relationship between managerial efficiency and firm performance (ROA) is accepted based on statistical results presented in Table 4.15.

The results reported in Table 4.16 show the mediating effect of financial quality reporting (ERQ) in the relationship between managerial efficiency and firm performance measured by Tobin's Q (TQ). The outcome of all path analyses (Path-a, Path-b, and Path-c) and results of the 4th Step to check the partial or full mediation are reported using system GMM.

The Path-a analysis results that the coefficient of managerial efficiency (MB) is positive and significant at a 1% level of significance ($\beta=0.0405$, $P=0.0000$). Therefore, the results are evident that managerial efficiency is significantly associated with earning quality.

The results for Path-b analysis show that earning quality (ERQ) improves the financial performance measured by Tobin's Q (TQ) as the coefficient of ERQ is positive and significant at the 1% level of significance ($\beta=1.0045$, $P=0.0000$). So, the earning quality is significantly associated with firm performance (TQ) as

TABLE 4.16: Mediating Role of ERQ in Relationship Between MB and Tobin's Q in Context of Pakistan

Variables	Path-a	Path-b	Path-c	4th Step
Dependent Variables	ERQ	TQ	TQ	TQ
DV (-1)	0.6315*** (0.000)	0.0001*** (0.000)	0.4908*** (0.000)	0.2626*** (0.000)
MB	0.0405*** (0.000)		1.7901*** (0.000)	0.4581*** (0.000)
ERQ		1.0045*** (0.000)		1.0826*** (0.000)
Fage		0.0283 (0.000)	-0.0251 (0.516)	-0.0592 (0.105)
Fsize		-0.4213*** (0.000)	-0.1999*** (0.000)	-0.9607*** (0.000)
SG		-0.5238*** (0.000)	-0.1347	-3279
SV		0.2065*** (0.000)	0.0824*** (0.000)	0.0242** (0.021)
Slack		-0.1060*** (0.000)	0.0031 (0.808)	-0.0975*** (0.000)
Lev		-1.1026*** (0.000)	-0.4048*** (0.000)	-0.2034*** (0.001)
IR		0.0017 (0.314)	0.0217*** (0.000)	0.0190*** (0.001)
ER		0.0100*** (0.000)	0.0081*** (0.000)	0.0179*** (0.000)
GDPG		0.1598*** (0.000)	0.1363*** (0.000)	0.1884*** (0.000)
FDI		0.5289*** (0.000)	0.0232 (0.321)	0.3619*** (0.000)
Constant	-0.2821*** (0.000)	8.0678*** (0.000)	3.6932*** (0.000)	16.5947*** (0.000)
AR (1)	-5.7251*** (0.000)	-4.3362*** (0.000)	-7.9715*** (0.000)	-7.8634*** (0.000)
AR (2)	0.9854 (0.3244)	-1.915 (0.06)	-0.0069 (0.9945)	-0.8961 (0.3702)
No. of Instruments	99	194	177	181
Hansen J-Stat	115.931	183.076	185.389	185.011
P-Value	(0.0812)	(0.4429)	(0.1211)	(0.1615)

Note: TQ=Tobins'Q, MB=Managerial Efficiency, MBPF=Managerial Efficiency Permanency, ERQ=Earnings quality, CGI=Corporate governance index, Fage=Firm Age, Fsize=Firm size, SG=Sale growth, SV=Sale volatility, Slack=Financial slack, Lev=Leverage, GI=Governance index, IR=Interest rate, ER=Exchange rate, GDPG=Gross domestic product growth, FDI=Foreign direct investment to GDP. ***P < 0.01, **P < 0.05, *P < 0.1 Parenthesis= (P-value, significance)

proved by statistical results. The results regarding Path-c demonstrate that managerial efficiency (MB) affects positively and significantly ($\beta=1.7909$, $P=0.0000$) the financial performance (Tobin's Q) at a 1% level of significance. The effect of both firm-specific and macroeconomic variables has been controlled in Path-c analysis. These results are indicating that managerial efficiency is significantly associated with firm performance (TQ) and is accepted based on statistical results. So, the statistical outcomes disclose the mediation role of earning quality (ERQ) between managerial efficiency (MB) and financial performance measured by Tobin's Q (Baron and Kenny, 1986).

In respect of partial or full mediation, the results of the 4th Step are obtained by applying the system GMM. The results are indicating that the influence of firm-specific and macro-economic variables has been controlled while performing the 4th Step. The outcomes indicate that both managerial efficiency ($\beta=0.4581$, $P=0.0000$) and earning quality ($\beta=1.0826$, $P=0.0000$) have a positive and significant influence on financial performance (TQ) when taken simultaneously in a model. Subsequently, from the statistical results, it is concluded that earning quality (ERQ) mediates partially between managerial efficiency and firm performance (TQ). Therefore, H5: earning quality mediates in a relationship of managerial efficiency with firm performance (TQ) is accepted.

4.7.2 Mediating Role of Earnings Quality Between managerial efficiency and Firm Performance in the Context of India

In Tables Nos. 4.17 and 4.18, the findings on the mediating effect of earning quality (ERQ) between management efficiency and business performance are shown in respect of selected non-financial enterprises in India. In both tables, the results of path analysis (Path-a, Path-b, and Path-c) and the final step to confirm the conditions of mediation effect of earning quality (ERQ) between managerial efficiency (MB) and firm performance (ROA and TQ) have been presented. In the case of both models with dependent variables return on assets and Tobin's Q, the co-efficient of AR (1) is insignificant in all path-analysis (Path-a, b, and c) and

AR (2) is significant, which indicates the issue of autocorrelation is resolved at 2nd order autoregressive term. Moreover, J-Statistic is insignificant in all cases, so the overidentifying restrictions are valid.

Table No. 4.17 in the Indian context details the mediating function of earning quality in the link between management conduct and business performance (ROA). According to the Path-a study results, management behavior (MB) has a substantial 1% negative impact on the accuracy of financial reporting ($\beta = -0.0295$, $P=0.000$). Thus, a significant association between managerial efficiency and earning quality is reported. The results regarding Path-b depict that the dependent variable is firm performance (ROA), and earning quality (ERQ) affects the return on assets (ROA) positively at a 1% level of significance ($\beta=0.0224$, $P=0.0000$). The results concluded that earning quality is associated positively but significantly with firm performance (ROA).

At a 1% level of significance, the path-c results show that managerial efficiency (MB) has a positive impact on firm performance (ROA) ($\beta=0.1594$, $P=0.0000$). Therefore, based on empirical findings, the results demonstrate that managerial efficiency was substantially connected with business performance (ROA). Based on statistical results presented in Table-4.17, Path-a, Path-b, and Path-c are showing significant results; therefore, according to Barron and Kenny, (1986) earning quality (ERQ) mediates between managerial efficiency (MB) and financial performance measured by return on assets.

Finally, the system GMM has also been applied by simultaneously taking earning quality and managerial efficiency to test the mediation status of earning quality. The results have been obtained by controlling both firm-specific and macroeconomic variables. The results further intimated that managerial efficiency ($\beta=0.0158$, $P=0.0010$) significantly influences ROA and earning quality ($\beta= 0.0417$, $P=0.5510$), showing the insignificant influence on ROA when taken into account simultaneously. Therefore, earning quality fully mediates between managerial efficiency and firm performance (ROA). From the results, it is concluded that H5: earning quality mediates in a relationship of managerial efficiency with firm performance (ROA) is accepted.

TABLE 4.17: Mediating Role of ERQ in Relationship between MB and ROA in the Context of India

Variables	Path-a	Path-b	Path-c	4th Step
Dependent Variables	ERQ	ROA	ROA	ROA
DV (-1)	0.2457*** (0.000)	0.2422*** (0.000)	0.3048*** (0.000)	0.3150*** (0.000)
MB	-0.0295*** 0		0.1594*** 0	0.0158*** (0.001)
ERQ		0.0224*** 0		0.0417 (0.551)
Fage		0.1074 0	0.0185 (0.579)	0.0056 (0.853)
Fsize		-0.0203*** (0.000)	-0.0304*** (0.002)	-0.0251*** (0.002)
SG		-0.0027** (0.012)	0.0293*** (0.000)	0.0309*** (0.000)
SV		0.0050*** (0.000)	0.0050** (0.041)	0.0045** (0.068)
Slack		0.0003*** (0.000)	0.0002 (0.461)	0.0004 (0.173)
Lev		-0.0552*** (0.000)	-0.0177*** (0.507)	-0.0321 (0.168)
IR		-0.0034*** (0.000)	-0.0018*** (0.242)	0.0016 (0.295)
ER		-0.0007*** (0.000)	0.0009*** (0.006)	0.0008*** (0.01)
GDPG		0.0009*** (0.000)	0.0015*** (0.007)	0.0016*** (0.005)
FDI		0.0001*** (0.89)	0.0032 (0.361)	0.0024*** (0.469)
Constant	-0.0756*** (0.000)	0.0306 (0.192)	0.4067*** (0.000)	0.3738*** (0.001)
AR (1)	-2.8163*** (0.0049)	-2.7463*** (0.006)	-3.0392*** (0.0024)	-3.1638*** (0.0016)
AR (2)	1.7688 (0.0769)	-0.5759 (0.5647)	-0.1918 (0.8479)	-0.1675 (0.867)
No. of Instruments	217	118	30	30
Hansen J-Stat	197.372	96.4652	14.9482	15.796
P-Value	(0.7861)	(0.712)	(0.5992)	(0.5383)

Note: ROA=Return on assets, MB=Managerial Efficiency, MBPF=Managerial Efficiency Permanency, ERQ=Earnings quality, CGI=Corporate governance index, Fage=Firm Age, Fsize=Firm size, SG=Sale growth, SV=Sale volatility, Slack=Financial slack, Lev=Leverage, GI=Governance index, IR=Interest rate, ER=Exchange rate, GDPG=Gross domestic product growth, FDI=Foreign direct investment to GDP. ***P < 0.01, **P < 0.05, *P < 0.1 Parenthesis= (P-value, significance)

TABLE 4.18: Mediating Role of ERQ in Relationship between MB and Tobin's Q in the Context of India

Variables	Path-a	Path-b	Path-c	4th Step
Dependent Variables	ERQ	TQ	TQ	TQ
DV (-1)	0.2457*** (0.000)	0.6039*** (0.000)	0.5324*** (0.000)	0.2377*** (0.000)
MB	-0.0295*** (0.000)		-0.3732*** (0.000)	0.0121* (0.075)
ERQ		3.9480*** (0.004)		-0.0967 (0.399)
Fage		8.2452 (0.000)	2.5056*** (0.000)	0.0813*** (0.008)
Fsize		-0.8991*** (0.009)	-0.1912*** (0.000)	-0.0363*** (0.000)
SG		0.1883 (0.264)	0.1042*** (0.007)	-0.0228** (0.015)
SV		0.4481*** (0.000)	0.2817*** (0.000)	0.0064** (0.015)
Slack		-0.0139 (0.708)	0.0140* (0.077)	-0.0002*** (0.702)
Lev		1.4099* (0.094)	1.0064*** (0.000)	-0.0134*** (0.659)
IR		-0.1210*** (0.000)	-0.1814*** (0.000)	-0.0013*** (0.454)
ER		-0.0529*** (0.000)	-0.0153*** (0.000)	0.0003*** (0.448)
GDPG		0.1237*** (0.000)	0.0673*** (0.000)	0.0011*** (0.201)
FDI		0.1159*** (0.002)	0.0996*** (0.000)	0.0004*** (0.908)
Constant	-0.0756*** (0.000)	-14.5952*** (0.000)	-4.8140*** (0.000)	0.2817** (0.028)
AR (1)	-2.8163*** (0.0049)	-4.0720*** (0.000)	-5.3961*** (0.000)	-3.0556*** (0.0022)
AR (2)	1.7688 (0.0769)	-1.5874 (0.1124)	-1.6639 (0.0961)	-0.456 (0.6486)
No. of Instruments	217	64	154	22
Hansen J-Stat P-Value	197.372 (0.7861)	51.796 (0.4426)	137.493 (0.5678)	2.72 (0.9507)

Note: TQ=Tobin's Q, MB=Managerial Efficiency, MBPF=Managerial Efficiency Permanency, FRQ=Earnings quality, CGI=Corporate governance index, Fage=Firm Age, Fsize=Firm size, SG=Sale growth, SV=Sale volatility, Slack=Financial slack, Lev=Leverage, GI=Governance index, IR=Interest rate, ER=Exchange rate, GDPG=Gross domestic product growth, FDI=Foreign direct investment to GDP. ***P < 0.01, **P < 0.05, *P < 0.1 Parenthesis= (P-value, significance)

The findings in Table No. 4.18 demonstrated how management efficiency and Tobin's Q (TQ) are related through the mediating role of financial quality reporting (ERQ) (TQ). The outcome of Path-a analysis shows that the co-efficient of managerial efficiency (MB) is negative and significant at a 1% level of significance ($\beta = -0.0295$, $P = 0.0000$). Therefore, the results are showing that managerial efficiency is associated significantly with earning quality based on the statistical outcomes. In Path-b analysis, the results are showing that earning quality (ERQ) improves the financial performance measured by Tobin's Q (TQ) as the co-efficient of ERQ is positive and significant at the 1% level of significance ($\beta = 3.9480$, $P = 0.0000$).

Thus, the earning quality is associated significantly with firm performance (TQ). The results regarding Path-c demonstrate that managerial efficiency (MB) effect negatively and significantly ($\beta = -0.3732$, $P = 0.0000$) the financial performance (Tobin's Q) at a 1% level of significance. Because all routes exhibit significant connections with the outcome variables, the statistical results reveal the mediation function of earning quality (ERQ) between managerial efficiency (MB) and financial success as evaluated by Tobin's Q (Baron and Kenny, 1986).

Moreover, the results of the 4th Step show the autocorrelation issue is resolved at lagged-2 and Hansen J-statistic showing the validation of instrumental over-identifying restrictions. The influence of firm-specific and macroeconomic variables has been controlled while performing the 4th Step. The outcomes indicate that both managerial efficiency ($\beta = 0.0121$, $P = 0.0750$), which is significant at a 10% level of significance, and earning quality ($\beta = -0.0967$, $P = 0.3990$) has negative and insignificant influence on financial performance (TQ) when taken simultaneously in a model. Subsequently, from the statistical results, it is concluded that earning quality (ERQ) mediates fully between managerial efficiency and firm performance (TQ). Therefore, H4: earning quality mediates in a relationship of managerial efficiency with firm performance (TQ) is accepted.

4.7.3 Mediating Role of Earnings Quality Between managerial efficiency and Firm Performance in the Context of Bangladesh

The findings of the earning quality (ERQ) mediation in the link between managerial efficiency (MB) and financial performance as measured by return on assets (Model-1) and Tobin's Q (Model-II) in the context of the Bangladesh scenario are presented in Tables No. 4.19 and No. 4.20 respectively. In the case of path-a analysis, the issue of autocorrelation is resolved at 1st order of autoregressive term, and in all other paths and 4th step, the issue of autocorrelation is addressed at 2nd order AR (2). The J-statistic also validates the overidentifying restrictions in both models.

Table 4.19 presents the results for the mediating effect of financial quality reporting (ERQ) in the relationship between managerial efficiency and firm performance measured by return on assets (ROA). In an analysis of Path-the results are depicted that managerial efficiency (MB) affects positively and significantly the earning quality ($\beta = 0.2506$, $P = 0.000$) at a significant level of 1%. Therefore, the results indicate that managerial efficiency is associated significantly with earning quality. The results regarding Path-b depict that the dependent variable is firm performance (ROA), and earning quality (ERQ) affects the return on assets (ROA) positively at a 1% level of significance ($\beta = 0.0182$, $P = 0.0010$). The results supported the theoretical association between earning quality and firm performance. The path-c results demonstrate that managerial efficiency (MB) enhances business performance (ROA). At a 10% level of significance, managerial conduct has a favorable impact on business performance ($\beta = 0.0617$, $P = 0.0930$). The findings, therefore, demonstrate a strong correlation between management conduct and corporate success. Path-a, Path-b, and Path-c are producing statistically significant findings, therefore earning quality (ERQ) satisfies the requirements to serve as a mediator between managerial efficiency (MB) and financial success as evaluated by return on assets (Baron and Kenny, 1986; Khan et al., 2021a).

In the end, the results further intimated that managerial efficiency ($\beta = 0.1050$, $P = 0.0000$) significantly influences ROA and earning quality ($\beta = 0.0199$, $P = 0.0000$),

TABLE 4.19: Mediating Role of ERQ in Relationship between MB and ROA in the Context of Bangladesh

Variables	Path-a	Path-b	Path-c	4th Step
Dependent Variables	ERQ	ROA	ROA	ROA
DV (-1)	0.5228*** (0.000)	0.4150*** (0.000)	0.3148*** (0.000)	0.5190*** (0.000)
MB	0.2506*** (0.000)		0.0617* (0.093)	0.1050*** (0.000)
ERQ		0.0182*** (0.001)		0.0199*** (0.000)
Fage		-0.0046 (0.81)	0.0243 (0.172)	0.0203* (0.085)
Fsize		-0.0397*** (0.000)	-0.0465*** (0.000)	-0.0175*** (0.002)
SV		0.0054 (0.18)	0.0046 (0.285)	0.0045 (0.128)
Slack		0.0107 (0.493)	-0.0047 (0.769)	-0.0138 (0.357)
Lev		-0.0333 (0.259)	-0.026 (0.379)	-0.0204 (0.468)
IR		-0.0012 (0.619)	-0.0013 (0.566)	-0.0023 (0.33)
ER		-0.0001 (0.959)	-0.0002 (0.766)	-0.0002 (0.83)
GDPG		0.0045 (0.469)	0.0024 (0.696)	-0.0063 (0.225)
FDI		0.0056 (0.653)	0.0074 (0.533)	0.0225** (0.044)
Constant	-0.0826*** (0.000)	0.5756*** (0.000)	0.6388*** (0.000)	0.2680*** (0.003)
AR (1)	-0.9963 (0.3191)	-2.7325*** (0.0063)	-2.3493** (0.0188)	-2.4180** (0.0156)
AR (2)	1.1111 (0.2665)	-1.222 (0.2217)	-1.2869 (0.1981)	-1.291 (0.1967)
No. of Instruments	91	21	21	30
Hansen J-Stat P-Value	(94.033)	(12.156)	(13.083)	(21.627)
Hansen J-Stat P-Value	-0.3104 197.372 (0.7861)	-0.1444 51.796 (0.4426)	-0.109 137.493 (0.5678)	-0.1995 2.72 (0.9507)

Note: ROA=Return on assets, MB=Managerial Efficiency, MBPF=Managerial Efficiency Permanency, FRQ=Earnings quality, CGI=Corporate governance index, Fage=Firm Age, Fsize=Firm size, SG=Sale growth, SV=Sale volatility, Slack=Financial slack, Lev=Leverage, GI=Governance index, IR=Interest rate, ER=Exchange rate, GDPG=Gross domestic product growth, FDI=Foreign direct investment to GDP. ***P < 0.01, **P < 0.05, *P < 0.1 Parenthesis= (P-value, significance)

showing the significant influence on ROA when taken into account simultaneously. Therefore, earning quality partially mediates between managerial efficiency and firm performance (ROA). Therefore, it is evident from the empirical results that H4: earning quality mediates in a relationship of managerial efficiency with firm performance (ROA) is accepted in the context of India.

The findings are shown in Table No. 4.20 and demonstrate the mediating role of earning quality (ERQ) in the link between managerial efficiency and company performance measured by Tobin's Q in respect of Bangladesh. The data of non-financial enterprises listed on the Dhaka stock exchange was used to generate the results. Using the system GMM, the findings of the path analysis (Path-a, Path-b, and Path-c) and the results of the fourth step to determine if mediation was partial or complete are presented.

In Path-a analysis, the results disclosed that the co-efficient of managerial efficiency (MB) is positive and significant at a 1% level of significance ($\beta=0.2506$, $P=0.0000$), the results are showing that managerial efficiency is positively linked with earning quality. The results for Path-b analysis show that earning quality (ERQ) improves the financial performance measured by Tobin's Q as the coefficient of ERQ is positive and significant at the 1% level of significance ($\beta=0.1463$, $P=0.0000$). Therefore, it is evident from the results that the earning quality positively influences the firm performance based on empirical results. The results regarding Path-c demonstrate that managerial efficiency (MB) affects positively and significantly ($\beta=.02008$, $P=0.0470$) the financial performance (Tobin's Q) at a 5% level of significance. These results depicted that managerial efficiency is associated significantly with firm performance as evident from empirical results. So, the statistical results demonstrate the mediation role of earning quality in the relationship between managerial efficiency and firm performance measured by Tobin's Q.

To investigate the partial or full mediation in the relationship between managerial efficiency and firm performance (TQ), the managerial efficiency and earning quality included in the statistical equation simultaneously, the results are indicating that both managerial efficiency ($\beta=0.1909$, $P=0.0590$) and earning quality ($\beta=0.1507$, $P=0.0000$) have a positive and significant influence on financial performance (TQ)

TABLE 4.20: Mediating Role of ERQ in Relationship between MB and Tobin's Q in the context of Bangladesh

Variables	Path-a	Path-b	Path-c	4th Step
Dependent Variables	ERQ	TQ	TQ	TQ
DV (-1)	0.5228*** (0.000)	-0.5006 *** (0.000)	-0.4991*** (0.000)	-0.5199*** (0.000)
MB	0.2506*** (0.000)		0.2008** (0.047)	0.1909** (0.059)
ERQ		0.1463*** (0.000)		0.1507*** (0.000)
Fage		-1.0269*** (0.000)	-1.0631*** (0.000)	-1.0296*** (0.000)
Fsize		-0.7618*** (0.000)	-0.7136*** (0.000)	-0.7477*** (0.000)
SV		0.0335 (0.169)	0.026 (0.269)	0.0312* (0.077)
Slack		-0.1589** (0.025)	-0.1490** (0.034)	-0.1665** (0.02)
Lev		-0.6748*** (0.000)	-0.6706*** (0.000)	-0.6596*** (0.001)
IR		0.0215 (0.243)	0.0144 (0.424)	0.021 (0.256)
ER		-0.0469*** (0.000)	-0.0463*** (0.000)	-0.0481*** (0.000)
GDPG		0.2038*** (0.000)	0.1905*** (0.000)	0.2005*** (0.000)
FDI		0.3800*** (0.000)	0.4144*** (0.000)	0.4319** (0.044)
Constant	-0.0826*** (0.000)	27.0150*** (0.000)	26.6010*** (0.000)	27.1068*** (0.000)
AR (1)	-0.9963 (0.3191)	3.4528*** (0.0006)	3.4047*** (0.0007)	3.5259*** (0.0004)
AR (2)	1.1111 (0.2665)	-0.2197 (0.8261)	-0.2021 (0.8398)	0.0457 (0.1967)
No. of Instruments	91	21	21	21
Hansen J-Stat P-Value	94.033 (0.3104)	12.156 (0.1607)	13.083 (0.109)	10.9806 (0.2028)

Note: TQ=Tobin's Q, MB=Managerial Efficiency, MBPF=Managerial Efficiency Permanency, FRQ=Earnings quality, CGI=Corporate governance index, Fage=Firm Age, Fsize=Firm size, SG=Sale growth, SV=Sale volatility, Slack=Financial slack, Lev=Leverage, GI=Governance index, IR=Interest rate, ER=Exchange rate, GDPG=Gross domestic product growth, FDI=Foreign direct investment to GDP. *** $P < 0.01$, ** $P < 0.05$, * $P < 0.1$ Parenthesis= (P-value, significance)

at 10% and 1% levels of significance respectively. Subsequently, from the statistical results, it is concluded that earning quality (ERQ) mediates partially between managerial efficiency and firm performance (TQ). Therefore, H4: earning quality mediates in a relationship of managerial efficiency with firm performance (TQ) is accepted.

4.7.4 Pooling of the Companies from Emerging Countries (Combined Results)

The following Tables 4.21 and 4.22 are reporting the results of the mediating role of earning quality (ERQ) in the relationship between managerial efficiency and firm performance measured by return on assets and Tobin's Q respectively. The results are in the context of pooling all companies from Pakistan, India, and Bangladesh. In the analysis, to check the mediating role of earning quality between managerial efficiency and firm performance, the firm-specific and country-specific variables have been included as control variables. At the firm level, the effect of firm age (Fage), firm size (FSize), sale volatility (SV), financial slack (slack), and leverage has been controlled. Moreover, the effect of macro-economic variables such as interest rate (IR), an exchange rate (ER), GDP growth (GDPG), and foreign direct investment (FDI) has also been controlled

Table 4.21 is showing that autoregressive terms [AR (1) and AR (2)] have been added to the model to test the mediation of earning quality. To test the impact of managerial efficiency on earning quality, the impact of earning quality on firm performance, the influence of managerial efficiency on firm performance, and finally to test the status of partial or full mediation of earning quality in a relationship of managerial efficiency and firm performance, the J-statistic is insignificant, showing the validation of the overidentifying restrictions. Moreover, the issue of autocorrelation is resolved at AR (2) for all models except model-1 (Path-a), where the issue of autocorrelation is addressed at AR (1).

In Path-a analysis, the results are showing that managerial efficiency (MB) has a positive and significant impact on earning quality at a significant level of 5% ($\beta = 0.0244$, $P = 0.036$). Therefore, managerial efficiency is associated significantly

TABLE 4.21: Mediating Role of ERQ in Relationship between MB and ROA in Context of Pooling of Companies from Selected Countries

Variables	Path-a	Path-b	Path-c	4th Step
Dependent Variables	ERQ	ROA	ROA	ROA
DV (-1)	1.0282*** (0.000)	0.2825*** (0.000)	0.3194*** (0.000)	0.1299*** (0.000)
MB	0.0244** (0.036)		0.0274*** (0.000)	0.0282*** (0.000)
ERQ		0.0256** (0.03)		-0.0077*** (0.000)
Fage		-0.0210*** (0.000)	-0.0199*** (0.000)	-0.0113*** (0.000)
Fsize		0.0053*** (0.000)	0.0054*** (0.000)	-0.0094*** (0.000)
SG		0.0109*** (0.000)	0.0115*** (0.000)	0.01380*** (0.000)
SV		0.0010*** (0.000)	0.0010** (0.025)	0.0034 (0.000)
Slack		0.0440*** (0.000)	0.0441*** (0.000)	0.0086 (0.068)
Lev		-0.0918*** (0.000)	-0.0770*** (0.000)	-0.0537 (0.000)
IR		0.0001 (0.36)	-0.0004** (0.015)	-0.001 (0.007)
ER		-0.0002*** (0.000)	-0.0002*** (0.000)	-0.0002 (0.098)
GDPG		0.0011*** (0.000)	0.0009*** (0.000)	0.0013 (0.000)
FDI		0.003 (0.693)	0.0020** (0.022)	0.0007** (0.59)
Constant	0.0021 (0.703)	0.0417*** (0.000)	0.0434*** (0.000)	0.2080*** (0.000)
AR (1)	-1.4596 (0.1444)	-3.9098*** (0.0001)	-3.9111*** (0.0001)	-3.6086** (0.0003)
AR (2)	1.2643 (0.2061)	-0.2676 (0.789)	-0.1015 (0.9192)	-0.8312 (0.4059)
No. of Instruments	41	388	388	263
Hansen J-Stat P-Value	52.932 (0.1426)	371.48 (0.5416)	373.32 (0.5148)	271.998 (0.1515)

Note: ROA=Return on assets, MB=Managerial Efficiency, MBPF=Managerial Efficiency Permanency, ERQ=Earnings quality, CGI=Corporate governance index, Fage=Firm Age, Fsize=Firm size, SG=Sale growth, SV=Sale volatility, Slack=Financial slack, Lev=Leverage, GI=Governance index, IR=Interest rate, ER=Exchange rate, GDPG=Gross domestic product growth, FDI=Foreign direct investment to GDP. ***P < 0.01, ** P < 0.05, *P < 0.1 Parenthesis= (P-value, significance)

with earning quality and as reported in statistical results. Moreover, the results are further indicating that earning quality has a positive and significant influence on firm performance ($\beta= 0.0010$, $P=0.0300$) at a significant level of 5%. Therefore, the outcome of the analysis is showing that earning quality is associated significantly with firm performance. Similarly, the results are also showing that managerial efficiency has a positive influence on firm performance ($\beta= 0.0274$, $P=0.0000$) and therefore, it is concluded from the results that all the conditions of the mediating role of earning quality are fulfilled (Baron and Kenny, 1986; Khan et al., 2021a). Afterward, the results have been obtained regarding the influence of managerial efficiency and earning quality simultaneously on firm performance measured by return on assets (ROA) and showing that both managerial efficiency (MB) and earning quality (ERQ) both have a significant influence on firm performance at significant level 5%, which indicates the earning quality has a partial mediating role in the relationship between managerial efficiency and firm performance. Therefore, it is concluded that H4: earning quality mediates a relationship of managerial efficiency with firm performance (ROA) is accepted.

In table-4.22, the results about the mediating role of earning quality in the relationship between managerial efficiency and firm performance are measured by Tobins'Q. The results have been obtained by applying the system GMM in the context of pooling all companies from Pakistan, India, and Bangladesh.

The results are showing that managerial efficiency has a positive and significant influence on firm performance measured by Tobin's Q (TQ) at a significant level of 5%. The co-efficient of MB is 0.0244 with a P-value less than 0.05, therefore managerial efficiency is associated significantly with earning quality. Moreover, the coefficient of earning quality in path-b is also positive and significant at a 1% level of significance ($\beta=0.1433$, $P=0.0000$), which indicates the significant and positive relationship between financial reporting and firm performance. In an analysis of path-c, the results indicate that managerial efficiency has a positive and significant impact on firm performance measured by Tobin's Q. In this path analysis, the co-efficient of managerial efficiency is 0.9934 with a P-value of 0.0000, which demonstrates that the managerial efficiency is associated significantly with firm performance measured by Tobin's Q. By following Baron and Kenny (1986),

TABLE 4.22: Mediating Role of ERQ in Relationship between MB and Tobin's Q in Context of Pooling of Companies from Selected Countries

Variables	Path-a	Path-b	Path-c	4th Step
Dependent Variables	ERQ	TQ	TQ	TQ
DV (-1)	1.0282*** (0.000)	0.6750 *** (0.000)	0.6400*** (0.000)	0.6561*** (0.000)
MB	0.0244** (0.036)		0.9934*** (0.000)	0.7639*** (0.000)
ERQ		0.1433*** (0.000)		0.1136*** (0.000)
Fage		-0.1329*** (0.000)	-0.1780*** (0.000)	0.0506*** (0.000)
Fsize		0.0078 (0.235)	0.0303*** (0.000)	-0.1110*** (0.000)
SG		-0.2520*** (0.000)	-0.2435*** (0.000)	-0.0837*** (0.000)
SV		-0.016 (0.000)	-0.0188*** (0.269)	0.0313*** (0.000)
Slack		-0.4300** (0.000)	-0.4066*** (0.034)	-0.2551*** (0.000)
Lev		-0.6188*** (0.000)	-0.6907*** (0.000)	-0.9771*** (0.000)
IR		0.0015 (0.42)	-0.0182*** (0.424)	-0.0105*** (0.000)
ER		-0.0005*** (0.001)	-0.0002 (0.379)	0.0010*** (0.000)
GDPG		0.0433*** (0.000)	0.0431*** (0.000)	0.0495*** (0.000)
FDI		0.1659*** (0.000)	0.1292*** (0.000)	0.0290*** (0.000)
Constant	0.0021 (0.703)	2.5598*** (0.000)	2.8240*** (0.000)	27.1068*** (0.000)
AR (1)	-1.4596 (0.1444)	3.4528*** (0.0006)	-10.277*** (0.000)	10.252*** (0.000)
AR (2)	1.2643 (0.2061)	-0.2197 (0.8261)	-1.8445 (0.07)	-1.8692 (0.0616)
No. of Instruments	41	433	433	460
Hansen J-Stat P-Value	52.932 (0.1426)	455.683 (0.1111)	455.244 (0.1138)	174.009 (0.1733)

Note: TQ=Tobin's Q, MB=Managerial Efficiency, MBPF=Managerial Efficiency Permanency, ERQ=Earnings quality, CGI=Corporate governance index, Fage=Firm Age, Fsize=Firm size, SG=Sale growth, SV=Sale volatility, Slack=Financial slack, Lev=Leverage, GI=Governance index, IR=Interest rate, ER=Exchange rate, GDPG=Gross domestic product growth, FDI=Foreign direct investment to GDP. ***P < 0.01, **P < 0.05, *P < 0.1 Parenthesis= (P-value, significance)

the conditions of the mediating effect of earning quality in the relationship between managerial efficiency and firm performance are accepted.

Finally, to check the status of mediation of earning quality whether it mediates partially or fully in the relationship between managerial efficiency and firm performance measured by Tobin's Q (TQ). The results are indicating that the coefficient of managerial efficiency and earning quality is positive and significant when taken simultaneously to check their influence on firm performance. Therefore, H4: earning quality mediates in a relationship of managerial efficiency with firm performance (TQ) is accepted.

In a nutshell, the discussion and past literature reviewed are evident in the relationship between managerial efficiency and earning quality (Path-a), the relationship between earning quality with firm performance (Path-b), and the relationship between managerial efficiency with firm performance (Path-c) and the empirical results of the study obtained on the same lines that earning quality mediates in the relationship between managerial efficiency and firm performance.

In the context of Pakistan, India, Bangladesh, and pooling of all companies taken from countries the results obtained by following [Baron and Kenny \(1986\)](#) and by applying system GMM that earning quality (ERQ) plays a mediating role in the context of all emerging economies (Pakistan, India, and Bangladesh). The results are inconsistent with the procedure of mediating a variable's role in a relationship between an independent and dependent variable [Baron and Kenny \(1986\)](#); [Khan et al. \(2021a\)](#). The results are also consistent with the previous research, managers are the primary contributors and play a crucial part in the financial reporting process, ultimately affecting the quality of the financial reporting ([Choi et al., 2015](#)). Prior research examined managers' unique influences on business choices ([Bamber et al., 2010](#)). According to [Bertrand and Schoar \(2003\)](#), particular management styles influence operational and financial decisions. This claim was also supported by [Jensen and Zajac \(2004\)](#), who noted that managers' experience influences strategy creation. Consequently, management behavior affects the effectiveness of the company. Past research has shown that the quality of financial reporting affects a company's success and that better financial reporting helps to reduce investment inefficiencies ([Bushman and Smith, 2001](#); [Lambert et al., 2007](#)). According to

[Chang et al. \(2010\)](#), managerial efficiency significantly impacts operational and financial output, which also affects the organization's performance ([Andreou et al., 2016](#)).

Moreover, the firm-specific and country-specific variables have also been taken as control variables to avoid the biasedness the results while investigating the impact of managerial efficiency on firm performance with moderating role of the corporate governance index and mediating role of earning quality. In firm-specific variables, the firm size and leverage are showing a negative and significant influence on return on assets, moreover, other firm-specific control variables (Firm age, sale growth, sale volatility, financial slack) are showing mixed results with both negative and positive impact on return on assets, which have consistency with the past studies. Firm age, firm size, sale growth, financial slack, and leverage usually are taken as control variables in the model, whereas firm performance is used as an outcome variable ([Munjal et al., 2019](#)).

Although company size is a crucial aspect that has a beneficial impact on performance, some businesses nonetheless perform poorly despite growing in size ([Oyelade, 2019](#)). Firm age was utilized as a control variable by [Munjal et al. \(2019\)](#), who discovered that company age had a favorable impact on firm performance. [Samosir \(2018\)](#) claims that older companies have a better reputation and draw in more investors, which helps to improve the success of the company. Leverage has been shown to have both a detrimental [Warner \(1977\)](#); [Andrade and Kaplan \(1998\)](#) and a favorable [Wruck \(1990\)](#) impact on business performance in previous research.

[George \(2005\)](#) claims that it is up to the managers to decide how to utilize these resources, and because of their interests, there is a problem with an agency that eventually has a detrimental impact on the performance of the company. However, [Cryert and March \(1963\)](#) emphasized the value of financial slack since it encourages firms to take more risks, explore, innovate, and spend in R & D, all of which are beneficial to the success of the organization. Recent research found a correlation between sales growth and corporate success, as well as a negative correlation between sales volatility and corporate performance ([Lefebvre, 2022](#)).

At a country level, the governance index, GDP growth, interest rate, exchange

rate, and foreign direct investment have also been taken as control variables. The past studies support the influence of all-control variables on firm performance. The performance of a corporation is significantly correlated with the currency rate, interest rate, inflation rate, and GDP volatility, as has been demonstrated around the globe (Poudel, 2017). Internationalization and company performance have a beneficial association, according to previous research Kotabe et al. (2002), however, Likitwongkajon and Vithessonthi (2020) found a negative relationship between foreign direct investment and corporate performance. In the short run, the FDI may have a positive relationship with firm performance, but in long run, it increases the money supply, which increases inflation and ultimately has a negative relationship with firm performance.

4.8 Robustness of the Results

In this study one proxy of firm performance i.e., Return on assets has been used to analyze the objective and testing of the hypothesis. The return on assets (ROA) is a book-based measurement of firm performance. However, a market-based measurement of the firm performance i.e., Tobin's Q (TQ) has been used as the robustness of the results. The similar results have been obtained while testing the moderating role of corporate governance in relationship between managerial efficiency and firm performance measured by both proxies (ROA and Tobin's Q). Furthermore, 2SLS has been taken into consideration to test the mediating role of earning quality in relationship between managerial efficiency and firm performance. The results have been presented in Table-4.23. The results obtained by applying 2SLS are also showing that the earning quality is playing partial mediating role in relationship of managerial efficiency with firm performance.

In table-4.23, the results obtained by applying 2SLS are disclosing that in both cases in which performance is measured by return on assets and Tobin's Q, the earnings quality is found significant at 5% level of significance and managerial efficiency also found significant at 5% level of significance. The both independent and mediator are significant, which means the earnings quality is playing partial mediating role in relationship between managerial efficiency and firm performance.

TABLE 4.23: Mediating Role of ERQ in Relationship Between MB and Tobin's Q in Context of Pooling of Companies from Selected Countries by Applying 2 Stage Least Square (2SLS)

Dependent Variables	ROA	TQ
ERQ	1.1662** (0.0300)	48.2994** (0.0020)
MB	0.0903*** (0.0010)	2.1352** (0.0380)
Fage	0.0024 (0.6490)	0.148 (0.4750)
Fsize	0.0200* (0.0680)	0.5534 (0.1940)
SG	0.0271*** (0.0070)	0.485 (0.2150)
SV	-0.0068 (0.3080)	-0.4158 (0.1080)
Slack	-0.0385 (0.3390)	-1.8905 (0.2270)
Lev	-0.1030*** 0.0000	0.0243 (0.9790)
IR	-0.0003 (0.9100)	-0.2092** (0.0260)
ER	-0.0001 (0.6260)	0.0006 (0.9460)
GDPG	-0.0045 (0.3020)	-0.3014* (0.0750)
FDI	0.0051 (0.4860)	0.4616 (0.1060)
Constant	0.2309*** (0.1080)	1.64 (0.7690)
Number of Observations	5412	5412
Path-a	0.0244	0.0244
Path-b	0.0256	0.1433
S.E-a	0.0117	0.0117
S.E-b	0.0090	0.0103
Sobel Test	2.1810**	2.3260**

Note: ROA=Return on assets, TQ=Tobin's Q, MB=Managerial Efficiency, MBPF=Managerial Efficiency Permanency, FRQ=Earnings quality, CGI=Corporate governance index, Fage=Firm Age, Fsize=Firm size, SG=Sale growth, SV=Sale volatility, Slack=Financial slack, Lev=Leverage, GI=Governance index, IR=Interest rate, ER=Exchange rate, GDPG=Gross domestic product growth, FDI=Foreign direct investment to GDP. *** $P < 0.01$, ** $P < 0.05$, * $P < 0.1$ Parenthesis = (P-value, significance)

Moreover, sobel test has been applied and values of sobel test are outside the critical value i.e. 1.96 at significance level 5%, which confirms the mediation effect of earnings quality in relationship between managerial efficiency and firm performance ([Abu-Bader et al., 2021](#)).

Chapter 5

Conclusion, Implications, and Future Aspects of Research

This final chapter is about the conclusion of the study including the detail of the practical implications of the study. Moreover, this chapter is also indicating the limitations and future direction of the study.

5.1 Conclusion

The study's main objectives are to capture the influence of managerial efficiency (MB) on firm performance and to pinpoint the moderating role of corporate governance and mediating role of earnings quality (ERQ) in a relationship of managerial efficiency (MB) with firm performance. Another objective of the study is to inquire about the influence of a slope dummy i.e., a product of managerial efficiency permanency dummy on firm performance and to test whether this effect on firm performance is significantly different from temporary managerial efficiency (MB). After thoroughly studying, the theoretical and past studies, the study established the conceptual framework along with the hypotheses of the study.

Return on assets (ROA), and Tobin's Q, which are accounting or book-based and market-based proxies respectively, were used to gauge the success of the company (TQ). Data envelopment analysis (DEA) has been carried out to assess managerial efficiency (MB). First of all, the company efficiency was measured by using

the sales as the output of the company and the cost of items sold, selling and general administration costs, property, plant, equipment, and intangible assets as input of resources. Additionally, the firm efficiency has regressed in firm size, the company's market share, business segment, and foreign currency translation, and the model's residual values have been considered as managerial efficiency in terms of efficiency and utilization of skills. Moreover, one dimension i.e., board structure has been used to measure the corporate governance index and further used as a moderator in the model. The corporate governance index (CGI) has been created based on principal component analysis (PCA) and by incorporating board size, board independence, and board meetings. The dummy variable to represent the managerial efficiency has been used which is 1 if the managerial efficiency score is equal to or more than 3 times over the most recent four years and otherwise 0. Finally, the slope dummy (MBFP) has been used in the model by multiplying the managerial efficiency score by this dummy variable at the firm-year level. The earnings quality index (ERQ) has been constructed by taking the average of the different three earnings qualities, which is further used as a mediator in the conceptual framework.

The conceptual framework and hypotheses have been tested in the scenario of three lower-income emerging economies (Pakistan, India, and Bangladesh). The reason to select emerging economies is the presence of ineffective corporate governance mechanism and complex institutional system in emerging economies, which fails to help fully the shareholders to protect their rights (Zhang et al., 2017). According to the world bank Pakistan, India, and Bangladesh are South Asian lower-income countries (data.worldbank.org/country/XN) and these emerging economies have consistency in the corporate ownership structure (Masud et al., 2018; Bae et al., 2018).

Therefore, the study selected 492 companies in the non-financial sector and listed on the stock exchanges of Pakistan, India, and Bangladesh to test the hypotheses. The data has been gathered from 195 companies in the scenario of Pakistan, 200 companies listed on the Indian stock exchange, and 97 companies in the context of Bangladesh. The annual data has been collected from 492 companies listed in South Asian lower-income economies (Pakistan, India, and Bangladesh) for the

period of 11 years (2009 to 2019). In analyzing the data, descriptive statistics, and correlation analysis has been used, and further in testing the conceptual framework and hypotheses, the system generalized method of moments (GMM) was applied. In testing of hypotheses, at the firm-specific (firm age, firm size, sale growth, sale volatility, financial slack, and leverage), at country level governance (Governance index) and macro-economic control variables (interest rate, exchange rate, GDP growth, and foreign direct investment) have been used.

5.2 Main Findings of the Study

As early described that the main objectives of the study are as follows and on the same lines the research questions and hypotheses have been established.

1. To investigate the influence of managerial efficiency on firm performance.
2. To analyze the moderating role of managerial efficiency in a relationship between managerial efficiency and firm performance.
3. To check the significant difference between the effect of permanent and temporary managerial efficiency on firm performance.
4. To check the mediating role of earnings quality in the relationship between managerial efficiency and firm performance.

By following the objectives of the hypotheses of the study have been developed and tested by using the system GMM. The following main findings of the study have been obtained in the scenario of all three emerging economies. These main findings explain the status of the hypotheses, which further elaborates the achievements of the objectives of the study.

5.2.1 Impact of Managerial Efficiency on Firm Performance

The analysis has been carried out in the context of all three emerging economies individually and collectively and the results revealed that managerial efficiency has a positive impact on firm performance measured by return on assets and a

negative impact on Tobin's Q in the context of Pakistan and India. The negative impact of managerial efficiency on Tobin's Q indicates that managers have their interests due to which they sacrifice the interest of the shareholders and in long run, its negative influence is observed in Tobin's Q as it is the measure of long-term firm performance. However, the results reported show the significant influence of managerial efficiency on firm performance. Therefore, it is concluded that hypothesis H1: managerial efficiency has a positive influence on firm performance measured by return on assets is accepted in all contexts, and in the case of Tobin's Q as a measurement of firm performance the hypothesis H1 is accepted in the context of Bangladesh and pooling of all companies from Pakistan, India, and Bangladesh, but partially accepted in the context of Pakistan and India due to negative influence of managerial efficiency on Tobin's Q. The positive influence of managerial efficiency on firm performance is according to the past studies (Andreou et al., 2016). The resource-based theory discusses that managers are the main factors Holcomb et al. (2009) that contributes in competitive advantage by using the company's resources effectively (García-Meca and García-Sánchez, 2018). However, in context of Pakistan and India the managerial efficiency has negative influence on firm performance measured by Tobin's Q. Tobin's Q is a market-based measure of business performance, and in addition to management conduct, there are several other factors that might affect this metric. In short term, the company will have more profitability i.e., book value due to earnings management, but in long it will affect the firm performance negatively, which will translate in market-based proxy.

5.2.2 Moderating Role of Corporate Governance in the Relationship Between Managerial Efficiency and Firm Performance

The results are indicating that in all three lower-income emerging economies, the corporate governance index measured by the board structure index is playing an important role in the relationship between managerial efficiency and firm performance. The corporate governance index improves the relationship between

managerial efficiency and firm performance by reducing the agency issue, as on the one side it monitors and compels the managers to work for the best of shareholders and improve the disclosure quality and on the other side it has a direct and positive influence on firm performance, therefore, corporate governance works for the shareholders to reduce the agency conflicts. One more aspect is that in the case of Pakistan and India, the managerial efficiency has a negative influence on Tobin's Q, but the co-efficient of interaction term i.e., the product of managerial efficiency and corporate governance index is positive and significant. The possible reason for the negative influence of managerial efficiency on firm performance (Tobin's Q) is the personal interest of the managers as they work for their interest and the firm performance is compromised, however, by earnings management of the managers hide this negative effect in case of firm performance measured by return on assets, but its prominent effect is seen in case of market-based proxy so now the role of the effective corporate governance becomes very important to make weaker this negative relationship between managerial efficiency and firm performance (Tobin's Q). Finally, it is concluded that H2: Corporate Governance improves the relationship between managerial efficiency and firm performance and is also accepted in the context of all three emerging economies.

According to agency theory, the board oversees, supervises, and controls managers' duties to reduce agency conflicts while defending the interests of shareholders (Fama & Jensen, 1983). As a result, the board's responsibility extends beyond just endorsing managerial decisions [Kim et al. \(2009\)](#) it may also assist in coordinating such decisions with the interests of shareholders to reduce agency problems (Garcia-Sanchez, 2020). In case of Pakistan and India, the corporate governance weakens the relationship between managerial efficiency and firm performance measured by Tobin's Q. One side the managerial efficiency influenced the firm performance (TQ) negatively. Because managers work for their own interests and compromise the firm's performance as a result it effects negatively in long run performance of the company i.e measured by Tobin's Q.

Therefore, it is crucial for effective corporate governance to mitigate this negative relationship between managerial efficiency and firm performance (as measured by Tobin's Q). Here, corporate governance weakens this relationship between

managerial efficiency and firm performance due to which agency issue is minimized. The results are in consistent with the agency theory that board perform an effective role to minimize the agency issue.

5.2.3 Impact of Managerial Efficiency Permanency on Firm Performance

The results of testing of hypotheses are further showing that in the case of all three emerging economies, individually or collectively, the effect of managerial efficiency permanency is significantly different from the effect of managerial efficiency on firm performance. In all cases, the co-efficient of managerial efficiency permanency (MBPF) is positive and significant, which indicates that managerial efficiency permanency has a more positive influence on firm performance than the impact of managerial efficiency temporary in nature. Therefore, hypothesis H3: managerial efficiency permanency affects significantly different than the temporary managerial efficiency on firm performance.

The resource-based perspective theory, which describes the significance of managers [Holcomb et al. \(2009\)](#), indicates that a firm's ability to gain a competitive advantage depends greatly on its managers' capacity to do so ([García-Meca and García-Sánchez, 2018](#)). Echelons theory, on the other hand, says that managers have unique traits and are not interchangeable in cognitive styles, therefore they choose various actions, particularly in complicated circumstances [Bamber et al. \(2010\)](#). According to this hypothesis, managers' personal traits affect corporate choices and company performance by perceiving business problems from their own point of view ([Hambrick, 2007](#)). The resource-based perspective theory describes the significance of managers [Holcomb et al. \(2009\)](#) and elaborates that a company's ability to maintain its competitive advantage depends on the managers' capacity to make efficient use of the company's resources ([García-Meca and García-Sánchez, 2018](#)). Corporate success enhancement depends upon the managerial conduct in terms of skill usage and its continuity. managerial efficiency continuity enhance firm performance more as compared to temporary managerial efficiency in terms of utilization of resources.

5.2.4 Mediating Role of Earnings Quality in the Relationship Between Managerial Efficiency and Firm Performance

The results are demonstrating that in the case of all three emerging economies either consider individually or collectively, the earnings quality is playing a mediating role between managerial efficiency and firm performance measured by return on assets (ROA) and Tobin's Q. However, in the case of the status of partial or full mediation of earnings quality, the results are indicating that in the case of India, the earnings quality fully mediates the relationship between managerial efficiency and firm performance (ROA and TQ), however, in case of Pakistan, Bangladesh and pooling of companies from all selected countries earnings quality (FRQ) mediates partially in the relationship between managerial efficiency and firm performance (ROA and TQ).

Therefore, it is concluded that the H4: Earnings quality has a mediating role between managerial efficiency and firm performance is accepted in the context of all countries whether considered individually or collectively.

The results are in consistent with the procedure of mediating role of a variable in relationship of independent variable and dependent variable (Baron and Kenny, 1986; Khan et al., 2021a). According to previous research, managers are the primary contributors and play a crucial part in the financial reporting process, which ultimately affects the earnings quality (Choi et al., 2015). Past research has shown that the quality of earnings affects a company's success and that better earnings quality helps to reduce investment inefficiencies (Bushman and Smith, 2001; Lambert et al., 2007). According to Chang et al. (2010), managerial conduct has a significant impact on operational and financial output, which also affects the performance of the organization (Andreou et al., 2016). Therefore, the results are consistent with the previous studies and showing that earnings quality playing mediating role in relationship between managerial efficiency and firm performance.

Finally, the summary of the status of the hypotheses of the study is reported in Table 5.1, which are along the same lines as the objectives of the study.

5.3 Summary of the Testing of Hypothesis

The following table is showing the summary and empirical status of the hypotheses in the context of Pakistan, India, Bangladesh and pooling of companies from all these countries.

TABLE 5.1: Summary of Testing of Hypothesis

Hypothesis	Dependent Variable				
	ROA		Tobin's Q		
Pakistan Scenario					
H1: Managerial efficiency has a positive influence on firm performance	Accepted		Partially Accepted	Accepted	as a negative relationship
H2: Corporate Governance improves the relationship between managerial efficiency and firm performance.	Partially Accepted		Accepted	Accepted	as it weakens the negative relationship
H3: Managerial efficiency permanency affects significantly different than the temporary managerial efficiency on firm performance.	Accepted		Accepted		
H4: earnings quality has a mediating role between managerial efficiency and firm performance	Partial Accepted	Mediation	Partial Accepted	Mediation	Accepted
Indian Scenario					
H1: Managerial efficiency has a positive influence on firm performance	Accepted		Partially Accepted	Accepted	as a negative relationship
H2: Corporate Governance improves the relationship between managerial efficiency and firm performance.	Partially Accepted		Accepted	Accepted	as it weakens the negative relationship
H3: Managerial efficiency permanency affects significantly different than the temporary managerial efficiency on firm performance.	Accepted		Accepted		
H4: Earnings quality has a mediating role between managerial efficiency and firm performance	Full Accepted	Mediation	Full Accepted	Mediation	Accepted
Bangladeshi Scenario					
H1: Managerial efficiency has a positive influence on firm performance	Accepted		Accepted		
H2: Corporate Governance improves the relationship between managerial efficiency and firm performance.	Accepted		Accepted		
H3: Managerial efficiency permanency affects significantly different than the temporary managerial efficiency on firm performance.	Accepted		Accepted		
H4: Earnings quality has a mediating role between managerial efficiency and firm performance	Partial Accepted	Mediation	Partial Accepted	Mediation	Accepted
Pooling of Companies from Pakistan, India, and Bangladesh					
H1: Managerial efficiency has a positive influence on firm performance	Accepted		Accepted		
H2: Corporate Governance improves the relationship between managerial efficiency and firm performance.	Accepted		Accepted		
H3: Managerial efficiency permanency affects significantly different than the temporary managerial efficiency on firm performance.	Accepted		Accepted		
H4: Earnings quality has a mediating role between managerial efficiency and firm performance	Partial Accepted	Mediation	Partial Accepted	Mediation	Accepted

5.4 Implications of the Study

First and foremost, the study's main finding is the addition of a theoretical and empirical link between management behavior and business success, while also capturing the mediating function of earnings quality and the moderating impact of corporate governance in the context of emerging economies. The study opens new doors for researchers to conduct their studies on the continuity and stability of managerial efficiency and its contribution to enhancing firm performance. The study also disclosed how corporate governance is important to enhance the relationship between managerial efficiency and firm performance. The results disclosed and recommended how effective corporate governance and improved earnings quality is essential especially in the context of emerging economies to mitigate the agency issue between managers and shareholders. The results of the study are also important for practical implications as the outcome of the study recommended the guideline for policymakers, shareholders, regulators and companies.

The study's recommendation includes that the managerial efficiency continuity in terms of utilization of resource proper way are more relevant and essential to enhance the firm performance. The results recommended the policy makers to encourage the continuity of the managers' efforts in utilizing the resources in proper way for long term firm performance. Hiring high-ability managers with greater incentives or higher pay is worthwhile for business owners since they are better equipped to ease corporate financial pressures and work to improve the firm's performance. The results of the study are more important for practical implications especially in the case of Pakistan and India, where the negative influence of managerial efficiency on firm performance (TQ) has been reported, as these results indicate that managerial efficiency permanency is one of the factors that can improve the relationship between managerial efficiency and firm performance. Therefore, the board of directors should focus to make the continuity, stability, and permanency of the managerial efficiency in terms of utilizing the resources and skills in a better way.

The results of the study recommended to establish an effective corporate governance mechanism, to protect the rights of the shareholders by monitoring and

controlling the managers to do the work in the best interest of shareholders and to maximize their wealth. The outcomes of the research are helpful for policymakers to formulate strategies for improvement of the firm performance. The results of the study revealed that the independent directors still make up a very small fraction of board members in these developing economies. For boards and policymakers that are interested in reaching ideal board composition, this conclusion has significant ramifications. The findings recommended that firms seriously evaluate this new code clause and think about raising the number of their independent directors on board.

The study also suggests that the corporate governance mechanism is an important mechanism to enhance the relationship between managerial efficiency and firm performance in the context of south Asian lower-income emerging economies. The outcome is reported that corporate governance mechanism is required to make more effective especially in the case of Bangladesh due to which the monitoring weakness may be minimized, which further translates into strengthening the relationship between managerial efficiency and firm performance.

The study also suggested that corporate governance should give a guideline and enforce the management to disclose quality information on financial aspects to ensure corporate transparency and to reduce uncertainty, which further leads to the firm performance. The results are also useful for the creditors and loan providers to scrutinize the managerial efficiency for future firm performance due to which they make their decisions to allocate the resources to the businesses.

The study's overall findings reveal that all three countries use the reporting standards based upon their national standards are not sufficient to disclose the required information. This situation calls for rigorous implementation of reporting standards and supervision in these nations, which can be improved by adopting proper reporting standards and monitoring mechanism. The study also communicates the information to the investors that how management is using their resources for maximization of their wealth, which further contributes to their idiosyncratic risk. By offering insights into how governance requirements are actively applied at the micro level, the analysis contributes to the empirical literature. This study is consistent with other research about inadequate governance practices, which

suggests that in nations with weak institutional and investor protection frameworks, businesses can utilize corporate governance to differentiate themselves apart from rivals.

5.5 Limitations of the Study

In the study, work on a large scale has been carried out to check the influence of managerial efficiency on firm performance with moderating role of corporate governance and mediating role of earnings quality. Despite all, there always remains the cushion to do more work. Therefore, this study has some limitations, which are required to probe the study in the future. First of all, the study incorporates only South Asian lower-income emerging economies (Pakistan, India, and Bangladesh). Second, the objective of the study was to construct the corporate governance index by taking the characteristics of board structure only. There are not many female directors in the context of Pakistan [Wang et al. \(2019\)](#), which limits the study to take into consideration the dimension of board diversity in corporate governance index. Third, in the study, only the earnings index (a Sum of three different proxies of earnings quality) has been used to capture the mediating role of earnings quality in the relationship between managerial efficiency and firm performance. Fourth, the external mechanism of governance i.e., country-level governance has only been taken as a control variable in the study.

5.6 Future Aspects of the Study

In the future, a comparison of the study may be carried out with some advanced countries. In the future, the characteristics of other dimensions of corporate governance which are ownership structure and audit quality may also be taken into account. Moreover, the study may be conducted without constructing the index and by taking all characteristics (Board size, Board independence, and Board meetings) separately to check their moderating influence on the relationship between managerial efficiency and firm performance. In future research, the researcher may also use all measurements of earnings quality separately to check the moderating

role of earnings quality in the relationship between managerial efficiency and firm performance. In the future, the moderating role of corporate governance may also be tested in the relationship between managerial efficiency and earnings quality . The external mechanism of governance i.e., country-level governance has been taken as a control variable, but in a future study, the moderating role of the internal mechanism of governance i.e., corporate governance, and external mechanism of governance i.e., country-level governance may be used as a moderator in the relationship between managerial efficiency and firm performance.

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