CHAPTER-3

RESEARCH METHODOLOGY

"You can't swim in information. You have to drink it in and then know how to digest it."

-Aaron Wildavsky

3.1 Introduction

The cornerstone of any research is its methodology. It is the foundational blueprint guiding the researcher from data collection to analysis in order to shed light on the research undertaken. A clearly defined methodology is quintessential as the evidence garnered may potentially herald significant changes in corporate practices and policy formation, as well as have a significant influence on the direction of scholarly debate (Nekhili & Gatfaoui, 2013). This study, thus, strives to employ a robust methodological framework as the basis for its analysis of the impacts of AQ and BD on FP.

In this chapter, a meticulously delineated outlay of the path followed for the data collection, analysis, and interpretation is documented. The present study employs a quantitative approach and makes use of secondary data in an experimental setting. The relationship between AQ, BD, and FP is thoroughly investigated and explained by the meticulously drafted study design. Figure 3.1 illustrates the sequential steps of research methodology followed to achieve the undertaken objectives.

Figure 3.1: Steps of Research Methodology

Source: Author's Design

3.2 Research Paradigm

Building on the work of Burrell and Morgan (1994), this study acknowledges the significance of choosing a suitable paradigm to direct the research. The philosophical

underpinnings of every research undertaking are seen as crucial in the social sciences. A positivist approach looks for underlying consistencies and causal links between the fundamental aspects of the social environment to explain and anticipate occurrences, as suggested by Burrell and Morgan (1994). It underscores the presence of an objective reality that can be measured and examined using scientific techniques. The paradigm used in this research is positivist. Based on this framework, hypotheses are developed to investigate how BD and AQ affect the performance of the firm. These assumptions are then put to the test using analytical instruments and accepted theoretical presumptions to carry an in-depth analysis and empirical test.

Additionally, the nature of this study suggests that the deductive strategy be used instead of the inductive one since the objective of the inquiry is to use data to examine established links. Examining the effects of BD and AQ on FP in top firms in the selected SAARC nations is the rudimentary aim of this research. A positivist method is chosen because of its emphasis on verifying pre-existing theoretical frameworks (Morrow, 2005).

3.3 Research Approach

The selection of the research approach is clearly intertwined with the overall research philosophy that guides a study (Denzin, 2013). The philosophical foundation of the research approach may be classified as qualitative, quantitative, or mixed techniques, and it influences the approach to data gathering and analysis. For this study a quantitative approach has been followed. According to Bell and Bryman (2007), quantitative research technique places a strong emphasis on quantifying the collection and analysis of data. This strategy is consistent with deductive reasoning, as mentioned above, which emphasises using empirical facts to examine established beliefs. It allows researchers to test their theory against a specific sample and generalise the results to the entire research population. Furthermore, a quantitative research approach is based on the procedures and standards of the positivist paradigm, which assumes an external and objective social reality.

3.4 Research Design

This study adopts a quantitative approach, utilising secondary data within an experimental research design framework. Figure 3.2 outlays the categorisation of the steps involved in the research design of the study.

Figure 3.2: Steps Involved in the Research Design

Source: Author's Design

3.4.1 Variable Specification and Data Collection

In this sub-section, the variables of interest and the empirical and theoretical rationale behind selecting the same have been specified. Further, the data were collected from the respective annual reports and the Koyfin database. For country-specific variables, several other data sources were employed, as specified in Tables 3.1 and 3.2.

3.4.1.1 Variables for Examining the Association between AQ and FP

The following variables shall be employed for examining objective (i) and objective (iii).

3.4.1.1.1 Dependent Variables

Extant literature has employed many accounting and market-based measures of FP. However, both are restricted by certain limitations. The application of accounting-based metrics to measure FP is rationalised by the fact that they are the most readily accessible data (Hirschey & Wichern, 1984). Further, accounting metrics are objective and easily comparable across businesses and sectors since they are predicated on standardised accounting concepts and procedures rendering performance evaluation and benchmarking facile. However, accounting-based performance measurements, despite their value, have drawn criticism for potential limitations. Miller (1987), Hax (2003) and Masa'deh et al. (2018) have all emphasised the vulnerability of accounting data to manipulation by management and owners. Furthermore, the shortcomings of these metrics in reflecting the multidimensional character of corporate success have been emphasised, implying that they may be insufficient for completely analysing a firm's entire performance. Dwelling on the gradual demise of faith in accounting data, a rising trend among investors to prioritise market-based indicators in their decision-making processes started gaining momentum (Hax, 2003; Hirschey & Wichern, 1984). The enticing appeal of market-based valuation

arises from its inherent forward-looking orientation. Unlike historical accounting data, market prices contain communal expectations about the firm's future prospects, providing a more immediate and relevant appraisal of its performance (Hax, 2003). Furthermore, market-derived data provides convincing evidence and important insights into the sources of a firm's profitability, extending beyond the constraints of standard accounting metrics (Lindenberg & Ross, 1981; Hirschey & Wichern, 1984). While market-based indicators offer a tantalising view into future potential, their attraction is also restricted by a number of intrinsic limits. First, the market's concentration on the short term can put pressure on firms to prioritise short-term gains over long-term growth (Hirshleifer, 2001). Second, information asymmetries expose investors to manipulation by news, rumours, or herd behaviour, which distorts market signals and leads to mispricing (Grossman & Stiglitz, 1980). Third, larger economic and industry developments can distort market sentiment, masking the underlying performance of businesses in dynamic industries (Fama, 1970). Fourth, market values provide a comprehensive but hazy picture, making it difficult to identify individual drivers of value creation or underperforming divisions within a firm, hence impeding strategic decision-making (Penman, 2002). Thus, in essence, while both accounting and market-based measures provide valuable insights, both must be interpreted with caution and complemented by other metrics to gain a truly nuanced understanding of a FP and potential.

Measured by net income by total assets, ROA is a valuable indicator of a firm's ability to generate profit from its asset base, highlighting operational efficiency and resource allocation (Gitman & Zutter, 2018). Additionally, it facilitates benchmarking within similar industries or against historical performance benchmarks. Finally, declining ROA can act as an early warning signal for potential operational challenges or financial strain, prompting corrective actions. However, in the case of ROA, critics also point to its sensitivity to industry-specific characteristics (Gitman & Zutter, 2012), solely reflecting historical financials (Brigham & Houston, 2015), and susceptibility to accounting distortions and financial leverage effects (Penman, 2000).

On the other hand, TQ, measured as the sum of market capitalisation and the book value of total debt divided by the book value of total assets, offers a market-based lens for gauging FP. The application of TQ is not without restrictions, though. Its vulnerability to accounting irregularities (Lev & Sougiannis, 1996), market inefficiencies (Penman, 2000), and industry-specific prejudices (Opler & Titman, 1994) are among its criticisms.

Moreover, TQ does not always prove causation; rather, it represents future-looking market expectations rather than present operational performance (Gruenstein & Sougiannis, 2003). Notwithstanding these disadvantages, TQ has benefits such as accounting for intangible assets (Lev & Sougiannis, 1996), indicating the effectiveness of resource allocation (Penman, 2000), and potentially signalling investors ahead of time (Opler & Titman, 1994). This study, therefore, employed both accounting and market-based measures of FP. While ROA has been used as the accounting-based proxy of FP, TQ has been employed as the market-based measure of FP.

3.4.1.1.2 Independent Variables

In the absence of any consensus on the definition of AQ, measuring the same has been onerous. Numerous proxies of AQ have, therefore, been used by researchers over the decades. The present study has resorted to the employment of the two most widely used proxies of AQ- audit fee (AF) and auditor size (BIG4). The assertion that AF is a valid indicator for AQ is predicated on the idea that ceteris paribus, higher fees are associated with better AQ. There are two foundations for this hypothesis. Firstly, higher prices are frequently linked to stricter audit protocols, greater amounts of time and effort devoted, and the use of more seasoned employees, all of which result in an audit that is carried out with a greater degree of diligence. Second, higher fees could mitigate the auditors' reliance on their clients for financial backing, which may reduce the likelihood that economic pressures may erode their ability to make sound professional decisions. The empirical underpinnings of the AF-quality association are bolstered by several foundational studies concerning AQ. According to DeAngelo (1981), there is a positive relationship between AF and auditor independence, which suggests that higher fees provide auditors with more capacity to eschew client pressure and preserve their objectivity. Through his demonstration that AF captures fundamental impacts on AQ, such as client size, complexity, and risk, Simunic (1980) further cemented this connection. By showing a negative correlation between fees and later financial restatements, Palmrose (1988) added to the body of research by indicating that greater costs could result in more thorough audit processes and better misstatement detection. Furthermore, Francis (1984) found an inverse association between fees and earnings management. This suggests that higher costs are linked to more cautious financial reporting methods, which are a sign of a high AQ.

The argument that auditor size is a proxy for AQ is based on the notion that larger organisations provide better audit services than smaller businesses. Several theoretical foundations support this notion. To begin with, bigger corporations are acutely aware of the possible brand destruction associated with audit failures, motivating them to maintain strict quality standards. Second, their larger financial resources enable them to invest in cutting-edge technology, specialised skills, extensive training programmes, and solid quality control systems, all of which lead to improved AQ. Finally, their client base chiefly consists of larger, more complicated firms that are exposed to more scrutiny, reinforcing the expectation of high-quality audits. In tune with AF, several pioneering studies advocate for auditor size to be used as a proxy of AQ. According to DeAngelo (1981), BIG 4s are prone to give financially distressed clients going-concern opinions, indicating a higher level of independence and a readiness to probe management presumptions. This mirrors the findings of Francis and Wilson (1988), who found that firms audited by BIG 4 firms had lower levels of discretionary accruals—a potential sign of earnings manipulation—implying higher calibre financial reporting. Teoh and Wong (1993) indicate a higher capacity to identify misstatements since there is a decreased risk of later financial restatements for firms audited by BIG 4 firms. Again, Becker et al. (1998) assert that BIG 4 auditors have a more rigorous and thorough audit methodology, which in turn can control internal vulnerabilities.

3.4.1.1.3 Control Variables

Audit Committee Characteristics

Prior literature establishes that audit committee characteristics significantly affect the AQ of a firm (Bansal & Sharma, 2016). This is because the audit committee's competence and monitoring capacities can have an impact on the audit's efficacy (Al-Janahi & Watts, 2015). Audit committees reflect upon the robustness of the internal governance mechanism. They are entrusted with the responsibility of recommending auditors in annual general meetings for onward approval by shareholders (Alzeban, 2020). Effective audit committees can close the knowledge gap between management and auditors, resulting in a more informative audit process (Dyck et al., 2010). In his comprehensive study of CG advances, Gillan (2006) recommended that increasing audit committee membership and meeting frequency might improve CG quality. In the Indian context, Bansal and Sharma (2016) discovered that audit committee independence and the frequency of meetings

benefit the FP. However, Shehrawat et al. (2019) reject these findings, stating that their study found no association between audit committee features and FP. Nevertheless, controlling for these features allows researchers to isolate the underlying influence of external AQ on FP, regardless of the firm's internal governance. Therefore, the study has included three audit committee characteristics, namely, audit committee size (ACS), audit committee independence (ACI) and frequency of audit committee meetings (ACM) as control variables for the study.

Other firm-specific control variables included are firm size (FS), leverage (LEV), and firm age (FA). They have been explained below:

Leverage

The link between debt and management agency challenges is a complex subject in CG. Jensen (1986) argues that a higher amount of debt might serve as a disciplinary tool. Debt can reduce the danger of excessive spending and empire-building by restricting managers' access to discretionary cash. Servicing the debt obligation significantly limits the amount of cash available for such actions. Conversely, Stiglitz (1985) argues that effective monitoring of managerial behaviour is generally initiated by lenders rather than shareholders. The presence of large debt generates a creditor constituency that is vested in the firm's success. These creditors, driven by the risk of default, may put more pressure on management to function effectively, perhaps leading to enhanced FP. To control for such effects, LEV, measured as the proportion of debts to total assets, has been used in the study.

Firm Size

This study includes FS as a control variable, recognising its potential impact on the dependent variable. Larger firms may have benefits in a number of crucial areas. First, their scale may allow for better access to capital markets, resulting in more financial flexibility (Berger et al*., 2005). Second, they may profit from economies of scale, resulting in cost savings (Akerlof, 2002). Third, their larger size may reduce entry barriers to scale-dependent firms (Ghemawat, 2008). Contradictorily, the literature also argues that FS may have negative consequences as well. Himmelberg et al. (1999) emphasise the possibility of higher monitoring and agency costs in large firms. Similarly, McConnell and Servaes (1990) establish an association between FS and management entrenchment. The aim of

including FS as a control variable is to isolate the impacts of other independent variables while acknowledging the complex impact of FS.

Firm Age

When studying the association between CG idiosyncrasies and FP, FA is an important control variable. This is because younger and older entities may have fundamental variations that affect the efficacy of governance systems. Younger entities may be more open to certain governance models to attract investors, whereas older firms may have obsolete methods or established, possibly inefficient governance infrastructure (Vafeas, 2003). Furthermore, a firm's financial risk profile, which might alter over time, can impact how governance approaches work. FA has been utilised here as a control variable to reduce selection bias, adjust for changing governance practices, and determine the real impact on FP.

Gross Domestic Product

Researchers assert that the macroeconomic variable, GDP, tends to have a positive relationship with FP. An increasing GDP indicates more economic activity and a stronger economy, which translates into higher sales and profitability (Levine, 1991; Tanaka et al., 2020). This can lead to an increase in investor confidence and capital accessibility, hence further augmenting growth possibilities. However, rapid GDP growth can also result in inflation, and the impact on a company can be contingent on its industry and sensitivity to economic cycles (Tanaka et al., 2020).

Corruption

Corruption (COR) is one of the main drivers of reforms surrounding AQ. AQ is a testament to transparency and reliability for any firm. Thus, when investigating the association between AQ and FP, it is imperative to account for the corruption culture of any nation under scrutiny. COR may be seen as a service exchange between the briber and the bribed, based on transaction cost economics (TCE) (Williamson, 1979). This TCE lens uses cost-benefit analysis to examine the trade. Depending on the possible advantages of the agreement compared to the cost of the bribe, COR can either discourage businesses and investors (high cost) or encourage them (low cost) (Rose-Ackerman, 2008). Its effects

might either be favourable or unfavourable. When it "greases the wheels," it expedites procedures and gets around red tape, which simplifies operations and may improve FP. On the other hand, corruption may "sand the wheels," impeding effective corporate operations by raising expenses and creating uncertainty (Fisman & Svensson, 2007).

Dummy Variables

In order to capture the influence of evolving CG frameworks across the included nations, this study employs a dummy variable named CG_Reforms. This binary variable takes a value of one (1) in any year where a CG reform was implemented in the specific country under examination. In all other years, the variable takes a value of zero (0). The analysis further incorporates year-fixed effects to account for heterogeneity across the sample.

Table 3.1: Variable Measurements for Investigating the AQ-FP Association

Variables	Measure	Studies	Source
Dependent Variables			
Return on assets (ROA)	Measured as net income by total assets	Ararat et al. (2015); Sayyar et al. (2015); Terjesen et al. (2016); Sattar et al. (2020)	Koyfin database
Tobin's Q (TQ)	Measured as the sum of market capitalisation and book value of total debt divided by book value of total assets.	Bhagat et al. (2011); Darmadi (2013); Kagzi and Guha (2018); Aggarwal et al. (2019)	Koyfin database
Independent Variables			
Audit fees (AF)	Total AF divided by the square root of the total assets	Simunic (1980); Joshua et al. (2019)	Annual Reports
Auditor size (BIG4)	A dummy variable will have a value of one if the auditing firm is BIG 4; otherwise, zero.	Tanko and Polycarp, (2019); Khan et al., (2021)	Annual Reports
Control Variables			
Audit Committee size (ACS)	Measured as the number of members in the audit committee	Bansal and Sharma (2016); Ogbodo and Akabuogu (2018)	Annual Reports
Audit Committee independence (ACI)	Measured as a percentage of independent directors in the audit committee	Hutchkinson and Zain (2009); Bansal and Sharma (2016); Ogbodo and Akabuogu (2018)	Annual Reports
Frequency of audit committee meetings (ACM)	Measured as the total number of meetings held by the audit committee in a year	Ahmed and Che-Ahmad (2016); Bansal and Sharma (2016)	Annual Reports

Firm size (FS)	Measured as the natural log of total assets of the firm.	Chu et al. (2013); Sayyar et al. (2015); Ugwu et al. (2020)	Koyfin Database
Firm age (FA)	Measured as the natural log of the number of years since the firm establishment	Hutchkinson and Zain (2009); Fooladi and Shukor (2012); Aggarwal et al. (2019)	Annual Reports
Leverage (LEV)	Measured as the proportion of debts to total assets.	Fooladi and Shukor (2012); Sayyar et al. (2015); Ogbodo and Akabuogu (2018)	Koyfin Database
Gross Domestic Product (GDP)	Measured as natural logarithm of GDP per capita.	Ozili (2017); Gunn et al. (2019)	World Development Index (World Bank)
Corruption (COR)	Corruption perception index	Athanasouli et al. (2012); Martins et al. (2020)	Transparency International

Source: Author's Compilation

3.4.1.2 Variables for Examining the Association between BD And FP

3.4.1.2.1 Dependent Variables

The dependent variable employed is FP. ROA and Tobin's Q, as defined in the preceding section, have been used.

3.4.1.2.2 Independent Variables

Variables capturing both the demographic and structural idiosyncrasies of BD have been employed. For measuring structural diversity, director's independence and CEO duality have been used following the prior studies (Ararat et al., 2015; Villalonga et al., 2015; Silva et al., 2016; Aggarwal et al., 2019). Further, to capture the demographic diversity, gender, age, nationality and education of the BODs are employed as they are established by the extant literature as the key observable attributes of the demographic diversity of the board (Erhardt et al., 2013).

Demographic Diversity Variables

Gender Diversity

As far as time dates, gender has been the most extensively explored attribute of BD (Hsu et al., 2019). Lafuente and Vaillant (2019) in their study strongly argue that women on board can influence the firms' economic and risk-oriented performance measures. However, according to the critical mass theory, at least three women on boards are required

to reach the critical mass that can influence FP (Liu et al., 2014). In the Asian context, the meta-analysis by Bokhari and Hashmi (2016) substantiates the same, where stating the study of Julizaerma and Sori (2012), they conclude that in Malaysia, only if firms have a threshold of 30 per cent of women on the boards, they can establish a positive association with the firms' performance. Nevertheless, despite numerous attempts and a plethora of empirical findings, the relationship of gender diversity and FP remain unresolved. To measure this association in the context of the SAARC region, this study uses the Blau Index of Gender, wherein gender is considered as 1 if the board member is female or 0 otherwise.

Nationality Diversity

Culture exhibited an impact on financial decision-making and outcomes in several research. While national cultural diversity on the board has not been explored in corporate finance research, there is a long-standing theoretical discussion on cultural diversity and how it influences group results outside of the corporate finance literature (Frijns et al., 2016). On the beneficial side, cultural variety promotes information creation, providing a varied spectrum of knowledge and opinions (Nederveen Pieterse et al., 2013). Furthermore, foreign nationals might provide unique knowledge of their home nations to the organisation if it has activities in that area (Maznevski, 1994). Contrastingly, cultural variety, on the other hand, may also cause tension. For instance, coordination is more difficult in culturally varied groups because communication is slower, more muddled, and frequently a source of misunderstanding (Anderson et al., 2011). This study explores the impact of nationality diversity to throw further light.

Education Diversity

Although Knight et al. (1999) point out a negative association between educational diversity and firm strategic consensus, there is essentially little literature on this association. Differently educated board members are more likely to view, manage, and react to situations differently from one another (Milliken & Martins, 1996), and these differences are more likely to result in higher levels of cognitive conflict. Recent research, however, suggests that a board of directors with a diverse educational background can foster conversations about the significance of corporate strategies, allow the team to produce a greater range of strategic alternatives, and more accurately evaluate the possible outcomes of each alternative, ultimately leading to more creative solutions (Harjoto et al.,

2019). Nevertheless, treading on the literature of the past, several researchers have produced conflicting results. Considering it to be a significant aspect of BD, this study examines the impact of education diversity measured by the Blau Index on FP.

Age Diversity

The hypothesis of similarity-attraction challenges the idea of age variety in work groups. According to this idea, people prefer to associate with those that they believe to be similar to them based on a variety of demographic factors, including age (Kunze et al., 2011). This argument strongly opposes increasing age diversity, claiming that it will harm the firm's success. Contrastingly, according to the decision-making theory, age diversity may have a positive influence on the firm due to the group's pooled experiences (Syakhroza et al., 2021). Thus, employed as a proxy for experience, the age diversity of the board produces inconclusive results. For the present study, age diversity has been mapped by its Blau Index.

Structural Diversity Variables

CEO Duality

According to Lechem (2002), the term "CEO duality" alludes to integrating the positions of CEO and chairman into one person, who would obviously dominate the board. However, while some theorists and regulators advocate for CEO duality, others advocate for role separation. Stewardship theorists back CEO duality, stating that it improves organisational leadership performance (Finkelstein & D'Aveni, 1994). According to Pfeffer and Salancik (1978), the enhanced discretion offered by dual leadership improves the CEO's capacity to react and adapt more swiftly in a dynamic business environment, as well as secure resources crucial to FP. However, the agency theory vouchsafes for the antithesis. Agency theorists argue that CEO duality strengthens CEO entrenchment while weakening board independence, the implications of which can be evinced in the FP (Rhoades et al., 2001). Nevertheless, with findings being inconclusive and the existence of no universally agreeable uniform leadership structure, the debate continues to irk researchers.

Independent Directors

Within the context of CG, the function of independent directors in overseeing management is crucial to guaranteeing a firm's long-term viability. However, empirical data supporting

the influence of board independence on FP is still being debated. While some research suggests a link between a larger share of independent directors and better financial indicators, others establish unclear or even negative relationships. Theoretically, the stewardship theory contends that the paucity of information available to independent directors reduces their capacity to carry out their duties effectively, negatively affecting corporate performance and, ultimately, the FP. Several studies have attested the same (Ehikioya, 2007; Koerniadi & Tourani, 2012; Darko et al., 2016). This lack of agreement demands more research to better understand the situational elements that affect the association between board independence and FP.

Blau Index

As stated above, to measure the diversity of gender, nationality, education, age and director's independence, Blau's diversity index has been used. Developed by Peter M. Blau (1977), the Blau index is calculated on the basis of the following equation:

$$\text{Blau's (1997) diversity index} = 1 - \sum_{i=1}^{k} P_i^2$$

Where P_i corresponds to the proportion of group members in each category and *k* denotes the number of categories for an attribute of interest.

3.4.1.2.3 Control Variables

Board Size

Research investigating the correlation between FP and BS in developing economies unveils a complex interaction of variables. Topak (2011) draws attention to the fact that family-dominated boards are common in developing nations. This familial influence has the potential to greatly affect the firm's decision-making procedures. Claessens and Shivdasani (2006) have proposed that the potential beneficial link between FP and BS may be weakened by such concentrated ownership arrangements. Nonetheless, there are other viewpoints on BS as well. According to Jackling and Johl (2009), having a larger board can enhance the calibre of information accessible for making decisions, which could result in better FP. For the purpose of this study, BS has been measured as the total number of directors on the board.

Apart from BS, the other control variables include the three firm characteristics as

explained in the above segment dealing with the association between AQ-FP, namely, LEV, FS and FA. Furthermore, GDP, CG_Reforms and year dummy are also accounted for.

Table 3.2: Variable Measurements for Investigating the BD-FP Association

Dependent Variables			
Variable	**Measure**	**Studies**	**Source of data**
ROA	Measured as net income by total assets	Firth et al. (2006); Ararat et al. (2015); Sayyar et al. (2015); Terjesen et al. (2016); Khan and Subhan (2002); Sattar et al. (2020); Khan et al. (2021)	Annual reports
TQ	Measured as the sum of market capitalisation and book value of total debt divided by book value of total assets	Carter et al. (2003); Bhagat and Bolton (2007); Bhagat et al. (2011); Darmadi (2011); Snehata (2017); Kagzi and Guha (2018); Aggarwal et al. (2019); Ozdemir (2020)	Annual reports
Independent Variables			
Gender	Measured by the Blau index value for gender diversity (gender is 1, if the board member is female; 0, otherwise)	Miller and Triana (2009); Ujunwa et al. (2012); Ararat et al. (2015); Aggarwal et al. (2019); Dedunu and Anuradha (2020)	Annual reports
Education	Measured using the Blau index with two categories, viz., 'financial expertise' and 'non-financial expertise.'	Ararat et al. (2015); Kagzi and Guha (2018); Aggarwal et al. (2019)	Annual reports and the website of the firm
Age	Measured by the Blau index with four categories, viz., '20-40', '41-60', '61-80'. '80 and above'	Shehata and El-Helaly (2017); Kagzi and Guha (2018); Ozdemir (2020)	Annual reports
Nationality	Measured using the Blau index (nationality is 1 if the board member is a foreign national; 0 otherwise)	Miller and Triana, (2009); Frijns et al. (2016)	Annual reports
Director's independence	Blau index value for structural diversity (independence is 1, if the board member is independent, as reported by the company in its annual report; 0, otherwise)	Ararat et al. (2015); Villalonga et al. (2015); Silva et al. (2016); Aggarwal et al. (2019)	Annual reports

CEO duality	Measured as a dummy variable that takes the value 1 if one person occupies the position of CEO and board chair and 0 otherwise.	Cornett et al. (2007); Ujunwa et al. (2012); Aggarwal et al. (2019); Dupatti et al. (2019)	Annual reports
Control Variables			
LEV	Measured as the proportion of debts to total assets	Hutchkinson and Zain (2009); Fooladi and Shukor (2012); Aggarwal et al. (2019)	Annual reports
FS	Measured as the total assets of the firm	Jin et al. (2011); Ujunwa et al. (2012); Sayyar et al. (2015)	Annual reports
FA	Measured as the natural log of the number of years since the firm establishment	Hutchkinson and Zain (2009); Fooladi and Shukor (2012); Tesemma (2020)	Annual reports
Board Size (BS)	Measured as the total number of directors on the board of a firm	Kagzi and Guha (2018); Aggarwal et al. (2019)	Annual reports
GDP	Measured as natural logarithm of GDP per capita.	Ozili (2017); Gunn et al. (2019)	World Development Index (World Bank)

Source: Author's Compilation

As can be witnessed in both Tables 3.1 and 3.2, the data was duly collected from the Koyfin database and the annual reports of the respective firms.

### 3.4.1.3 Variables to Investigate Moderation Effect

CG variables may be influenced by numerous contextual factors. Amongst them, business group affiliation (GA) and national cultural diversity are two crucial contexts which have the potential to moderate the relationship between both the internal (BD) and external (AQ) monitoring mechanisms of CG and FP. Investigation of the moderating effect of GA and national cultural diversity is especially crucial in the context of the SAARC nations for the following reasons:

i) *Limited Research:* CG started gaining momentum in the region only in recent decades (Vinjamury, 2020). While FP emerges as a major research theme in the limited literature on CG in the emerging economies under study, the moderating effect of contextual variables remains relatively underexplored. The limited literature examining the moderating effect mostly includes investigating the effects of firm size (Hosain et al., 2020; Mubeen et al., 2023),

capital structure (Bano et al., 2020; Khan et al., 2021) and corporate social responsibility (Hosain et al., 2020). The unique context of SAARC nations with prominent business groups and diverse cultures is yet to be adequately explored.

ii) *Predominance of Business Groups:* Research conducted in developing nations indicates that membership in a business group can have a major effect on a firm's FP and financial reporting (Lin et al., 2021). By exchanging information, resources, and best practices among themselves, these organisations can enhance CG (Khanna & Palepu, 2000). Group control over the composition of the board, however, can also impede independent decision-making and create issues with conflicts of interest, which reduces the efficacy of CG (Morck et al., 1988). Furthermore, internal group control techniques may circumvent formal CG structures, diminishing transparency and accountability (Claessens & Djankov, 2000). The SAARC nations have a high prevalence of business groups that dominate the corporate landscape. In the chosen sample of 200 firms, 118 (59 per cent) are group-affiliated firms. Prior literature has also attested that there is a predominance of group-affiliated firms in emerging economies. Figure 3.3 graphically illustrates the composition of the chosen sample when classified into group-affiliated and non-group-affiliated firms. Notably, the extent to which GA moderates the relationship between CG and FP in the SAARC nations remains unexamined.

Group Affiliated v/s Non-group Affiliated Firms
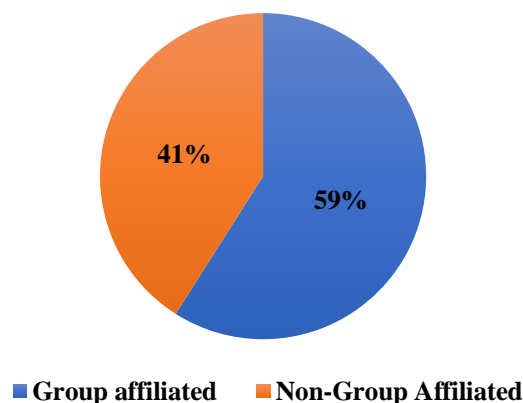
Figure 3.3: Group Affiliated v/s Non-group Affiliated Firms

Source: Author's Computation

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iii)   *Diverse Cultural Landscape*: SAARC nations encompass a rich tapestry of cultures with varying values and norms. These cultural differences can influence how CG mechanisms are perceived and implemented. As witnessed in Figure 3.4, the countries under study differ in their individualism scores. Albeit, in an aggregate manner, it is plausible to infer that all four countries have collectivistic traits, with Bangladesh and Pakistan sharing a score of 5 while India and Sri Lanka secure a score of 24 and 35 out of 100, respectively. Furthermore, in the case of power distance, it was observed that apart from Pakistan, with an intermediate score of 55, all the other three nations recorded high power distance score ratings, demonstrating a preference for hierarchy and top-down structures in society and organisations. Accommodating the moderation effect of these differences in national culture is integral to framing policies and regulations (Griffin et al., 2014).

National Culture Diversity

■ Bangladesh ■ India ■ Pakistan ■ Sri Lanka
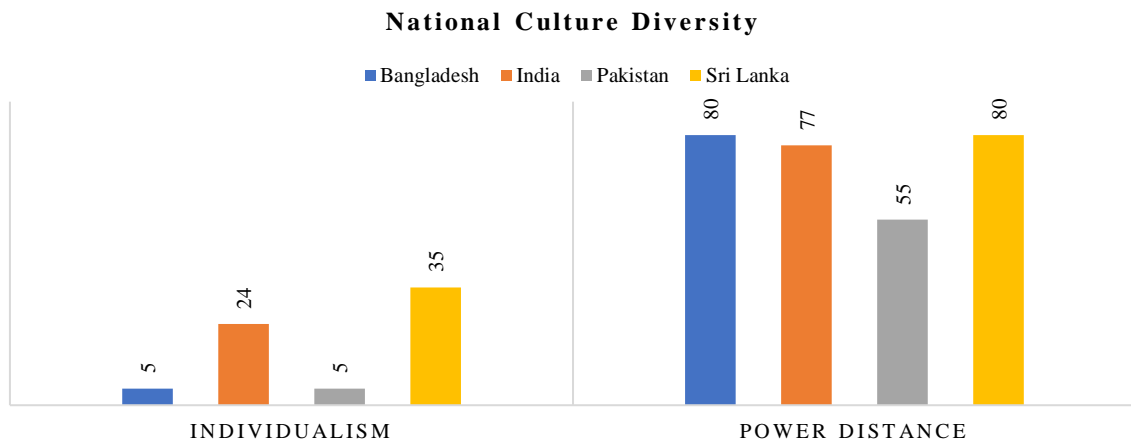
Figure 3.4: National Culture Diversity of the Selected Countries

Source: Hofstede Insights (2021)

Table 3.3 documents the measures of the moderating variables that have been used in the study.

Table 3.3: Measurement of Moderating Variables

Moderating variable	Measurement	Studies	Source of data
GA	Measured as 1 if the firm is a group-affiliated one; otherwise, 0	Singh and Gaur (2009); Aggarwal et al. (2019); Sanan et al. (2021)	Firm website

National Cultural Diversity		
Individualism (ID)	As measured by the cultural framework of Hofstede (2001)	Griffin et al. (2014); Zeng (2020); Naghavi et al. (2021); Shi and Veenstra (2021);	Hofstede Insights Website
Power Distance (PD)	As measured by the cultural framework of Hofstede (2001)	Griffin et al. (2014); Zeng (2020); Naghavi et al. (2021)	Hofstede Insights Website

<div align="center">Source: Author's Compilation</div>

3.4.2 Sample Selection and Data Collection

The listed non-financial enterprises of the member countries of SAARC make up the population. The research has excluded financial firms/institutions in accordance with Ji et al. (2020) because of the variations in the financial sector rules across the chosen countries. Additionally, the study uses data for ten years (2011–2021), effectively spanning the influence of one economic cycle, to address the gap in longitudinal cross-country studies (Ozili, 2017).

Furthermore, the chosen timeframe (2011-2021) corresponds to a period of significant regulatory reform in CG among the selected SAARC countries. This shifting regulatory landscape suggests an excellent opportunity to explore the influence of changing governance approaches on FP. Table 3.4 outlines in brief the various developments across the selected nations.

Table 3.4: Significant Developments in CG in the Sampled Countries

Country	Developments in CG
Bangladesh	Introduction of mandatory compliance with International Financial Reporting Standards (IFRS) for listed companies in 2010. CG Code was issued by the Bangladesh Securities and Exchange Commission in 2018.
India	CG Voluntary Guidelines issued by the Ministry of Corporate Affairs in 2009. CG Recommendations issued by the Confederation of Indian Industry in 2009. Implementation of the Companies Act 2013, strengthening CG regulations, including board composition, related party transactions, and independent directors' duties. Establishment of the National Institute of CG (NICSI) in 2014 to promote best practices.
Pakistan	Introduction of mandatory compliance with IFRS for listed companies in 2010. Issuance of the Code of CG for Listed Companies by the Securities and Exchange Commission of Pakistan (SECP) in 2012.

	Code of CG issued by SECP in 2019.
Sri Lanka	Revision of the Companies Act No. 7 of 2007 in 2013, incorporating CG principles.
	Code of Best Practices on CG issued by the Securities and Exchange Commission of Sri Lanka in 2017.

<div align="center">Source: Author's Compilation</div>

3.4.2.1 Sample Selection

SAARC consists of Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka as its member nations. Table 3.5 presents the total list of non-financial firms listed on the respective stock exchanges of the SAARC nations. Data for Afghanistan is not available and, hence, has not been reported.

<div align="center">Table 3.5: Number of Listed Non-financial Firms (As of 31st March 2022)</div>

Country	Number of listed non-financial firms
Afghanistan	-
Bangladesh	271
Bhutan	11
India	4970
Maldives	6
Nepal	76
Pakistan	454
Sri Lanka	260
Total firms (population of the study)	**6048**

<div align="center">Source: Author's Compilation (Based on the codes developed by the respective stock exchanges)</div>

<div align="center">Table 3.6: Share of Market Capitalisation Captured by Top 50 Firms</div>

Country	Share of market capitalisation captured by top 50 firms (in per cent)
Afghanistan	-
Bangladesh	80.05
Bhutan	-
India	56.14
Maldives	-
Nepal	93.98
Pakistan	90.62
Sri Lanka	79.22
Average share of market capitalisation	**80.02**

<div align="center">Source: Author's Compilation</div>

As is evident in Table 3.6, the top fifty non-financial firms are able to capture the lion's share (80.02 per cent) of the total market capitalisation with some degree of variation

across countries. They can thus be considered as sizeable representatives of the population under study. Based on this notion, the researcher has selected the top fifty non-financial companies of each nation as the sample size for the study. However, among the member nations of SAARC, the top 50 firms, each from the four most prominent nations, namely Bangladesh, India, Pakistan and Sri Lanka, were chosen. Data accessibility served as a guiding factor for this decision, guaranteeing the robustness of the empirical analysis. Barring the select four countries, data for the rest of the countries were not accessible. Therefore, the final selected sample size was 200 firms.

Table 3.7: Selected Sample Size

Country	No. of firms
Bangladesh	50
India	50
Pakistan	50
Sri Lanka	50
Selected sample size	**200**

Source: Author's Compilation

3.4.2.2 Framework of Data

For this study, a panel data framework is used. This method allows researchers to study changes within entities across time while accounting for unobserved individual-level heterogeneity (Torres-Reyna, 2007).

3.4.3 Model Specification

For the purpose of analysis, the regression models have been mathematically expressed in the form of simple linear regression as follows:

To examine the association between AQ and FP:

$$FP = f(AQ, Control\ variables) + \varepsilon_{it} \qquad (I)$$

That is:

$$\pi_{i,t} = \alpha_i + \beta_1 BIG4_{i,t} + \beta_2 ACS_{i,t} + \beta_3 ACM_{i,t} + \beta_4 ACI_{i,t} + \beta_5 LEV_{i,t} + \beta_6 FS_{i,t}$$
$$+ \beta_7 FA_{i,t} + \beta_8 GDP_{i,t} + \beta_9 Corruption_{i,t} + \beta_{10} CG\_Reforms_{i,t}$$
$$+ \beta_{11} Year_{i,t} + \varepsilon_{i,t} \quad \dots (Model\ 1)$$

$$\pi_{i,t} = \alpha_i + \beta_1 AF_{i,t} + \beta_2 ACS_{i,t} + \beta_3 ACM_{i,t} + \beta_4 ACI_{i,t} + \beta_5 LEV_{i,t} + \beta_6 FS_{i,t}$$
$$+ \beta_7 FA_{i,t} + \beta_8 GDP_{i,t} + \beta_9 Corruption_{i,t} + \beta_{10} CG\_Reforms_{i,t}$$
$$+ \beta_{11} Year_{i,t} + \varepsilon_{i,t} \quad \dots (Model\ 2)$$

Where $\pi_{i,t}$ is a measure of FP taken as ROA and TQ for firm '$_i$' at time '$_t$' and $\varepsilon_{i,t}$ is the error term.

To investigate the relationship between BD and FP:

$$FP = f(BD, Control\ variables) + \varepsilon_{it} \qquad (II)$$

That is:

$$\pi_{i,t} = \alpha_i + \beta_1 CEO_{i,t} + \beta_2 BInd_{i,t} + \beta_3 BGen_{i,t} + \beta_4 BNat_{i,t} + \beta_5 BEdu_{i,t} + \beta_6 BAge_{i,t}$$
$$+ \beta_7 BS_{i,t} + \beta_8 LEV_{i,t} + \beta_8 FS_{i,t} + \beta_9 FA_{i,t} + \beta_{10} GDP_{i,t}$$
$$+ \beta_{11} CG\_Reformsa_{i,t} + \beta_{12} Year_{i,t} + \varepsilon_{i,t} \quad \dots (Model\ 3)$$

Where πi,t is a measure of FP taken as ROA and TQ for firm '$_i$' at time '$_t$' and εi,t is the error term.

3.5 Data Analysis

3.5.1 Statistical Software

The statistical software, Stata 17 (64-bit) was used for analysing the collected data. The details of the analysis are discussed in the following subsections:

3.5.2 Appropriateness of Regression Model

Ordinary Least Square or OLS as it is widely known, is the most commonly used regression method in social science research (Hair et al. 2020). However, for employing OLS regression, the following classical linear regression model assumptions (CLRM) (Brooks, 2002) should be satisfied:

(i) The independent and dependent variables should have a linear relationship.

(ii) The error terms are statistically independent and do not exhibit autocorrelation.

(iii) The variance of the errors is constant across all levels of the independent variables.

(iv) The error terms are normally distributed with a mean of zero.

(v)   There is no multicollinearity or significant linear relationship between the independent variables.

If any of the above assumptions are not satisfied, the results obtained from OLS regression shall not be efficient or tenable. Therefore, to test the appropriateness of OLS in the pretext of the present study, an array of diagnostic tests, as suggested by Brooks (2002), were conducted. Table 3.8 elucidates in detail the tests along with their results on the dataset prepared for the study:

Table 3.8: Diagnostic Tests

Problem	Definition	Detecting Test	Result
Normality	The dependent and independent variables should have a normal distribution.	Data can be deemed nearly normally distributed if its skewness statistic falls between -2 and +2, and its kurtosis value falls between -7 and +7 (Curran *et al*., 1996; Bryne, 2010; Hair *et al.,* 2010)	The dataset for the present study does not follow a normal distribution. (However, the Levin-Lin-Chu unit root test results confirm that the dataset was stationary in nature)
Multicollinearity	Multicollinearity is a statistical phenomenon in which two or more independent variables in a regression model are strongly correlated with one another.	Pearson's Correlation Matrix and Variance Inflation Factor (VIF)	The results of Pearson's Correlation Matrix and VIF reveal that the employed dataset does not suffer from the issue of multicollinearity.
Heteroskedasticity	Errors are homoscedastic if their variance is constant; otherwise, they are heteroscedastic.	Breusch-Pagan / Cook-Weisberg Test for heteroskedasticity	It was observed that the dataset suffered from heteroskedasticity.
Autocorrelation	If the error terms in the models for successive observations are connected to each other,	Woolridge Test for autocorrelation	The results of the test revealed that a high degree of autocorrelation existed in the dataset.

		then there is an issue with the model.		
Endogeneity		Endogeneity is an issue that arises when a predictor variable in a regression model is correlated with the error term.	Durbin-Wu-Hausman Test for Endogeneity	Endogeneity was observed in the dataset.
Note: The detailed results are documented in the proceeding chapters (chapters 3 and 4).				

Source: Author's Computation

The results of the diagnostic tests, as illustrated in Table 3.8, render OLS estimates for the study inconsistent and biased. Furthermore, Wintoki et al. (2012) attest that, potentially, there exists endogeneity and causalty in the relationship between CG idiosyncrasies and FP. This is mostly due to simultaneity and unobservable business features. Moreover, the explanatory variables included in this study are likely to be influenced by previous FP, resulting in dynamic endogeneity. They may also be associated with the unobserved latent component of firm heterogeneity. In such cases, the pooled OLS and panel fixed effects estimators become biased and unreliable. Blundell and Bond (1998) recommend a System Generalised Method of Moment (SGMM) in this case since it can handle dynamic endogeneity and unobserved heterogeneity in panel data models.

Roodman (2009) states that the System Generalized Method of Moments (SGMM) estimator is particularly suited for panel data analysis characterised by the following features:

(i) The data structure includes a small number of time periods (T) but many individual entities (N).

(ii) The underlying relationship between the variables is assumed to be linear.

(iii) The dependent variable exhibits dynamic behaviour, implying that it may be affected by its own past values.

(iv) The independent variables are potentially correlated with the error term and may not be strictly exogenous.

(v) The model includes and accounts for unobserved time-invariant characteristics relevant to each unit.

(vi) Heteroskedasticity and autocorrelation within individual units may be exhibited by the error terms.

Furthermore, the SGMM model outperforms conventional approaches such as Instrumental Variables, Two-Stage Least Squares, and Fixed Effects models in dynamic panel data with endogeneity. As stated above, dynamic panels with lagged dependent variables frequently suffer from endogeneity due to correlations between the lagged variable and the error term. While Instrumental Variables and Two-Stage Least Squares models are based on external instruments, their validity is constantly contested. SGMM solves this by employing internal instruments generated from lagged differences and levels, which improves efficiency while minimising bias (Blundell & Bond, 1998). When compared to difference GMM, SGMM integrates moment conditions from both levels and differences, increasing estimator efficiency (Arellano & Bover, 1995). Moreover, SGMM also handles poor instrumentation better than Instrumental Variables and Two-Stage Least Squares models, delivering more exact estimates through a larger range of instruments (Roodman, 2009). This makes SGMM particularly useful for empirical study using dynamic models.

Accordingly, the SGMM model was chosen as the main model for analysis. Additionally, according to Arellano and Bond (1991) and Baltagi (2008), the two-step SGMM model is more efficient asymptotically than the one-step SGMM model. Thus, the two-step SGMM approach was adopted. The following regression models were developed to test our hypotheses:

To examine the association between AQ and FP:

$$
\begin{aligned}
\pi_{i,t} = \alpha_i &+ \delta\mu_{i,t-1} + \beta_1 BIG4_{i,t} + \beta_2 ACS_{i,t} + \beta_3 ACM_{i,t} + \beta_4 ACI_{i,t} + \beta_5 LEV_{i,t} \\
&+ \beta_6 FS_{i,t} \\
&+ \beta_7 FA_{i,t} + \beta_8 GDP_{i,t} + \beta_9 Corruption_{i,t} + \beta_{10} CG\_Reforms_{i,t} \\
&+ \beta_{11} Year_{i,t} + \varepsilon_{i,t} \quad \dots (Model\ 4)
\end{aligned}
$$

$$
\begin{aligned}
\pi_{i,t} = \alpha_i &+ \delta\mu_{i,t-1} + \beta_1 AF_{i,t} + \beta_2 ACS_{i,t} + \beta_3 ACM_{i,t} + \beta_4 ACI_{i,t} + \beta_5 LEV_{i,t} + \beta_6 FS_{i,t} \\
&+ \beta_7 FA_{i,t} + \beta_8 GDP_{i,t} + \beta_9 Corruption_{i,t} + \beta_{10} CG\_Reforms_{i,t} \\
&+ \beta_{11} Year_{i,t} + \varepsilon_{i,t} \quad \dots (Model\ 5)
\end{aligned}
$$

Where $\pi_{i,t}$ is a measure of FP taken as ROA and TQ for firm 'i' at time 't', and $\mu_{i,t-1}$ represents the one-year lag in FP. Again, $\varepsilon_{i,t}$ is the error term.

To investigate the relationship between BD and FP:

$$\pi_{i,t}$$
$$= \alpha_i + \delta\mu_{i,t-1} + \beta_1 CEO_{i,t} + \beta_2 BInd_{i,t} + \beta_3 BGen_{i,t} + \beta_4 BNat_{i,t} + \beta_5 BEdu_{i,t} + \beta_6 BAge_{i,t}$$
$$+ \beta_7 BS_{i,t} + \beta_8 LEV_{i,t} + \beta_9 FS_{i,t} + \beta_{10} FA_{i,t} + \beta_{11} GDP_{i,t} + \beta_{12} CG\_Reforms_{i,t} + \beta_{i,t} Year_{i,t}$$
$$+ \varepsilon_{i,t} \qquad\qquad\qquad\qquad \dots (Model\ 6)$$

Where $\pi_{i,t}$ is the measure of FP proxied by ROA and TQ respectively for firm 'i' at time 't', and $\mu_{i,t-1}$ represents the one-year lag in FP. Again, $\varepsilon_{i,t}$ is the error term.

3.5.3 Robustness Test

In order to assess the tenability of the results obtained from the SGMM model, the Generalised Estimating Equation (GEE) population-average model was used for robustness. Both SGMM and GEE have similar assumptions. The model was first introduced by Laing and Zeger (1986). This model is well-suited for analysing panel data and allows for the estimation of the marginal expectation of the outcome variable based on the covariates (Ghisletta & Spini, 2004). Generalised Estimating Equations (GEE) is a population-averaged technique built on quasi-likelihood theory (Carey & Wang, 2011). This framework has several benefits. First, it eliminates the requirement to provide a specific probability distribution for the response variable. Instead, GEE concentrates on modelling the mean and variance functions of the response data. Second, as stated by Cui and Qian (2007), GEE analysis is resilient to misspecification of the working correlation structure. This suggests that even if the postulated correlation structure between observations is not entirely precise, GEE can provide reliable regression coefficient estimations.

3.6 Conclusion

In this chapter, the research methodology adopted for the present study, along with the rationale behind selecting the same, was discussed comprehensively. The chapter delineated the steps involved in the research procedure. It attests that the present research follows a positivist research paradigm and takes a quantitative approach to analyse the data from the 200 firms sampled for the period of 2012-2021 from the four prominent SAARC countries. In its in-depth exposition of the research design, the chapter further highlights the variables of interest. Subsequently, the regression model for the study was selected after articulating the appropriateness against the assumptions to be satisfied.